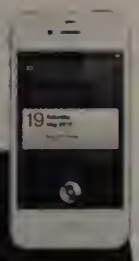

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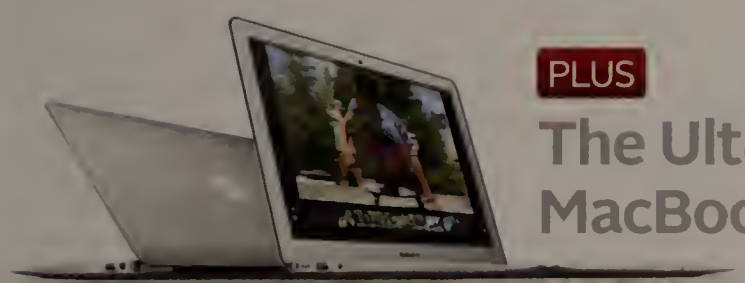

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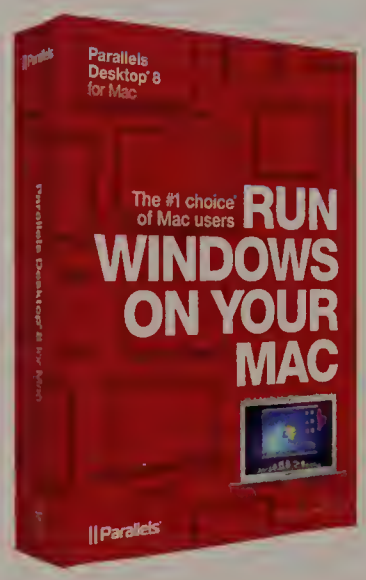

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October 2012

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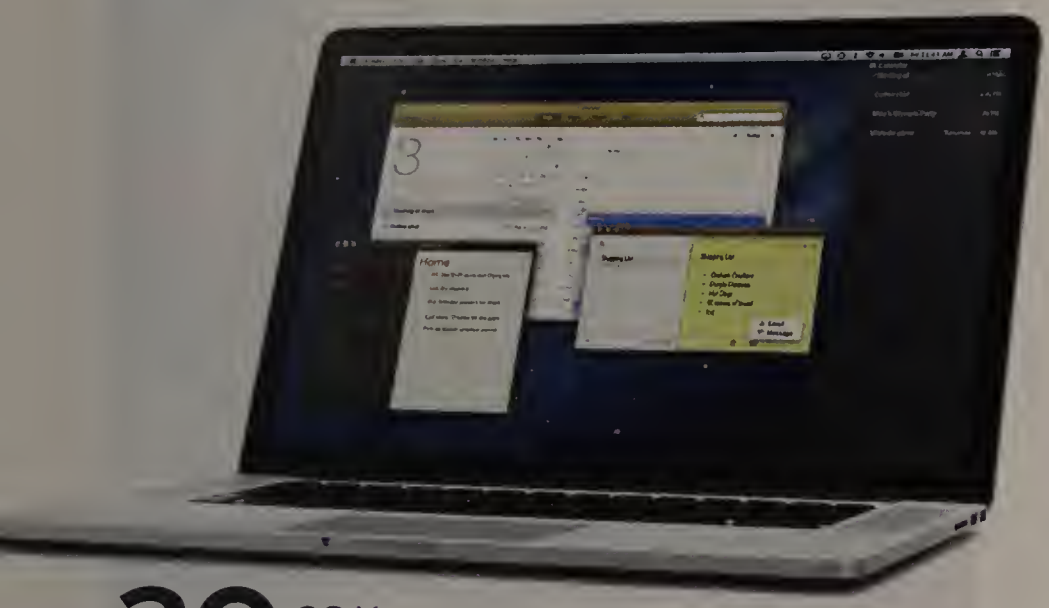

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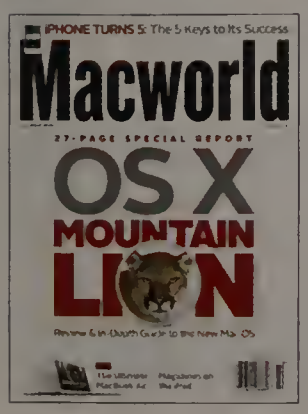

On the Cover
Photographs courtesy of Apple

COVER STORY

30 OS X Mountain Lion
The latest release of the Mac's OS is a significant update that brings Apple's three product lines—iCloud, iOS, and OS X—closer together than ever. We guide you through the update and help you get started. Plus: Editorial Director Jason Snell gives his in-depth review.

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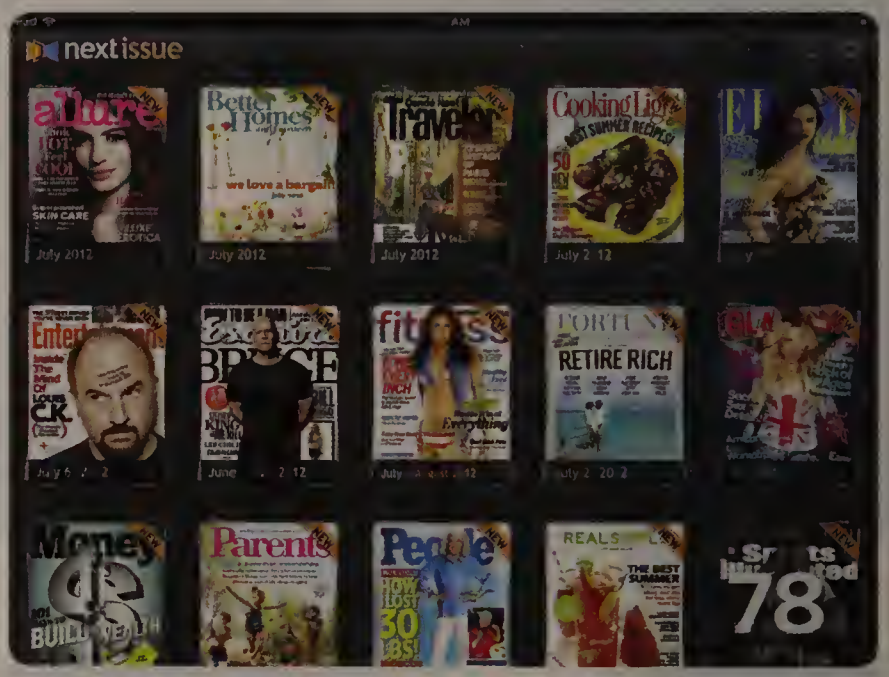

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Video: Mountain Lion, the Video Review

Jason Snell guides you through the highlights of the latest Mac OS (macworld.com/a/1167885).

We also recommend:

Podcast: Up Close with iOS 6 (macworld.com/a/1167632).

Video: How to Create Read-Only PDFs in OS X (macworld.com/a/1167638).

Video: Navigate Files, Folders, Menus with the Keyboard (macworld.com/a/1167564).

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 By Lex Friedman

Apple: Take Your Time

If OS releases were less frequent, perhaps they'd be more significant

Make no mistake: Mountain Lion is a big deal—in his review (page 32), Editorial Director Jason Snell calls it "state of the art." Apple's apparent plan to release a significant Mac OS upgrade every year is a big deal, too.

As impressive as Mountain Lion is, there's something mildly disquieting about Apple's annual OS updates. To maintain such an aggressive schedule, the company may by necessity be shying away from making deeper, more substantive changes to the Mac experience.

The latest iteration of the Mac OS looks awfully similar to its OS X predecessors.

Foolish Consistency?

Mountain Lion offers huge improvements over every prior iteration of OS X. Despite all its new features, however, the latest iteration of the Mac OS looks awfully similar not just to its OS X predecessors, but also to the earliest Mac OS versions.

Even way back then, you double-clicked to open files and folders. The menu bar sat atop your Mac's screen with the Apple menu at the upper left. You closed windows with a single click in their upper left corners. And you dragged files you no longer needed into the Trash.

More recently, since the introduction of OS X in 2001, we've had the Dock, traffic light–style window controls, and the System Preferences app for tweaking your Mac's settings.

Consistency is good. But for decades now, Apple has mostly avoided challenging the underlying assumptions about what makes the Mac OS the Mac OS. We can debate the merits of the Dock, the Trash, and everything else in OS X. But even if one of us praises the Dock to the high heavens with steadfast devotion, while the other attacks it with equal passion, we can likely agree on one thing: Good or bad as the Dock may be, it certainly shouldn't be the *only* way our Macs can display active apps and keep our most-used ones at the ready.

These days, we keep apps running on our Macs so that we can quickly get back to them as needed, and so that apps that poll for data (checking for new email, instant messages, and the like) can do so constantly. But if you combine Apple's ongoing adoption of blazingly fast solid-state drives with the addition of Mountain Lion's Notification Center, the long-held belief that we need to keep our favorite apps running at all times starts to look quite questionable.

Take Out the Trash

Or consider the ubiquitous Trash. For years, we deleted files to free up precious storage space on our hard drives. (The first Mac had *no* internal hard drive at all; the first Mac hard drive, which shipped in the Macintosh XL, topped out at just 10MB.) Some of us still count every kilobyte. But in these days of massive hard drives, Time Machine backups, and iCloud, the model of deleting files via the Trash seems pretty antiquated.

Gmail taught us that we never really need to delete an email again; its Archive button means I can access old messages I never thought I'd need again, and get back to them when I do. I can envision a day when, using a mix of drive- and cloud-based backups, the Mac OS could simply let users archive old files, and then instantly recall them if and when they're needed.

I'm not suggesting that Apple should change long-standing interfaces and paradigms on a whim, any more than I would advise car makers to experiment with more three-wheeled vehicles when four wheels have served most of us so well for so long. But Apple's success with iOS proves that plenty of innovation is still possible for the interfaces that power our most-used electronic devices.

Perhaps a Multi-Touch gesture could instantly summon the current app's menu bar wherever the cursor sits. Maybe the Finder isn't the best way to keep our files and folders organized. Maybe it's time for Shut Down to be shut down.

Apple has certainly taken innovative leaps in OS X—Lion's Multi-Touch gestures, All My Files, Auto Save, and Resume were all significant upgrades to the Mac experience. And Mountain Lion features such as Power Nap, AirPlay Mirroring, and systemwide iCloud integration show that the folks in Cupertino certainly haven't given up on making improvements to OS X.

But I wouldn't mind if Apple waited an extra year for the next major release of OS X, if that meant the company could rethink some of its—and our—assumptions about how the Mac OS should work. If the changes in Mountain Lion are this impressive with only a year's gestation period, imagine the fantastic *real* changes Apple could make to OS X with a little more time.

Lex Friedman is a staff writer for *Macworld*.

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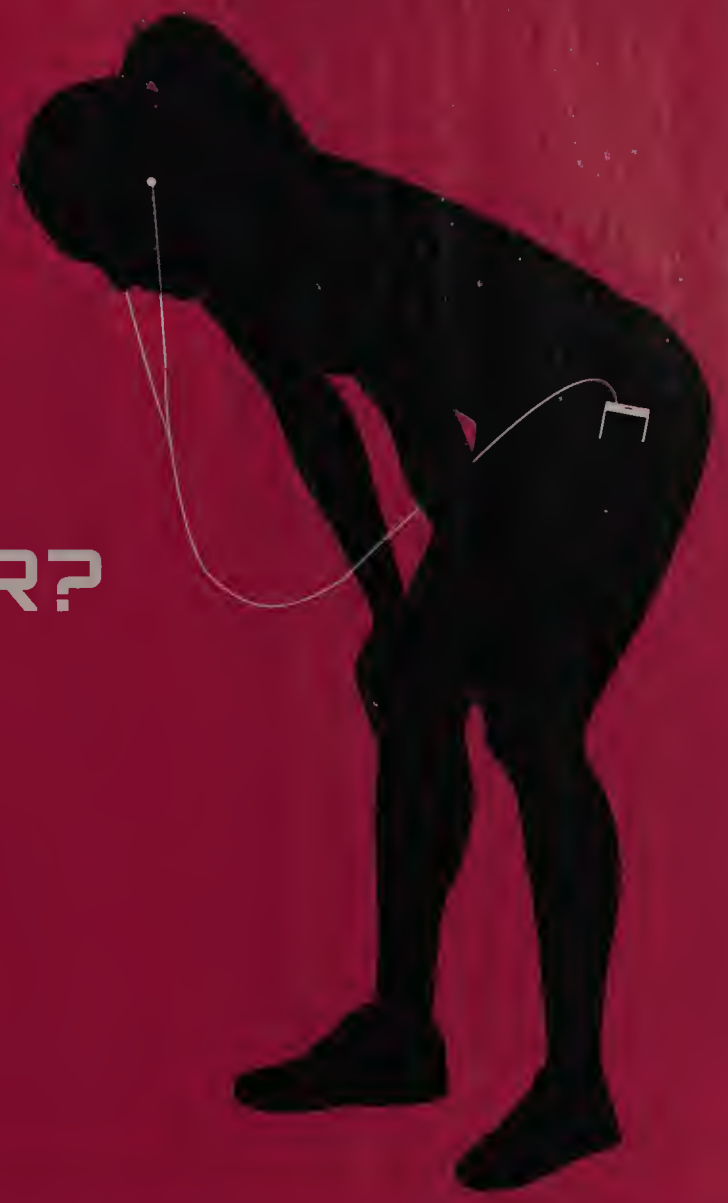

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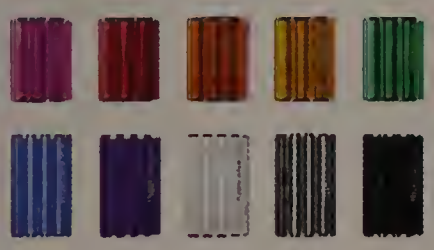

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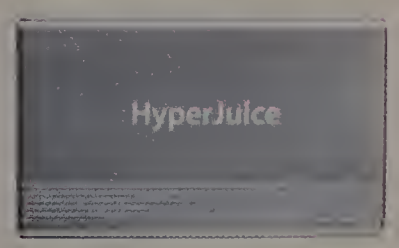

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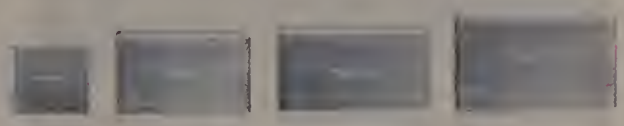

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The Balancing Act

Mountain Lion has arrived with a feast of new features—but there was no iTunes update, much to the dismay of our readers. And as we head into the eternal debate about iOS versus the Mac, it seems there's still plenty to be said.

BACK TO THE MAC

It doesn't matter what the iPad or iMac does "better" ("iPad vs. iMac," August 2012). It's about cultural shift. Users under 50 want their computers with them everywhere and all the time. Tweeting, browsing, shopping, gaming, and streaming now go on 24/7, even in the presence of other people. If doing real work is klutzier on an iPad, it's a small price to pay. I'm a geezer. I use my iMac for writing, editing videos, and managing college courses. I don't play games, tweet, or stream. I can only hope that iMacs will still be made for professionals, so I can keep being a Mac user.

Richard Posner, via email

I wholeheartedly agree with Stephen Hackett's comments in the August issue with regard to his not being ready to make the iPad his primary computer. Apple seems to be trying to make OS X look more like iOS—a really big mistake. One example: The new scroll bars in Lion. There no longer seems to be an easy way to smoothly scroll the window vertically, other than by grabbing the scrollbar handle. Not all of us have a Magic Trackpad, and using the Magic Mouse is a less-than-perfect solution.

I have been a Mac user since 1986, and Lion is the first OS "upgrade" that I have been really, really disappointed with.

Charles Reeves, via email

THE ITUNES MEDIA MESS

Our readers respond:

@dloehr: The sync issues. @jsnell nailed it. I connect my phone/pad as little as humanly possible, update everything manually on them.

@EmannuelMartnez: Layout overhaul. I feel like we're due for something new.

@jflipb: Aside from breaking the behemoth into separate pieces, would love the ability to append comments to multiple songs.

[Read more reader responses on Storify (macworld.com/7907).—Ed.]

No question as to the value of the iPad and the iPhone. As so well pointed out by the editors, however, they are compatible only to a limited extent. They are not adequate tools for the vast majority of uses for which we look to a computer.

Different strokes for different folks.

Ed Law, via email

CORRECTIONS

Our September "Hidden Treasures" feature should have given a rating of 4 mice to Log Leach (page 41). The find code for Battery Status (page 40) should have been 7875. And the URL for Social Folders (page 42) should have been socialfolders.me.

Also in the September issue, our review of the new AirPort Express (page 16) erroneously shows a photo of the current AirPort Extreme.

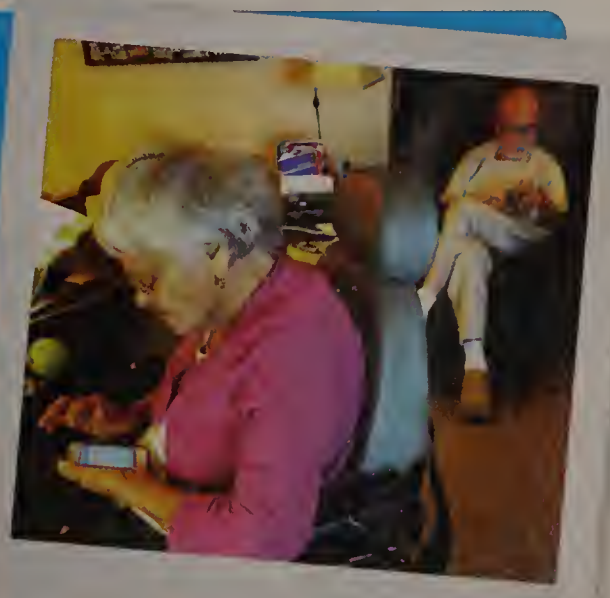
We regret the errors.

All reader communications to *Macworld*—through mail, email, our social networking accounts, and our online forums—are presumed to be intended for publication. We reserve the right to edit them.

THROUGH THE LENS: TEXTING WHILE DRIVING

My parents, both in their eighties, text to one another while Mom is "driving" her wheelchair. This is the same woman who tells ME not to text and drive, even at a stoplight!
—Mike Ferguson

Have a great Apple-centric photo? Send it to letters@macworld.com, and we may feature it in a future issue.



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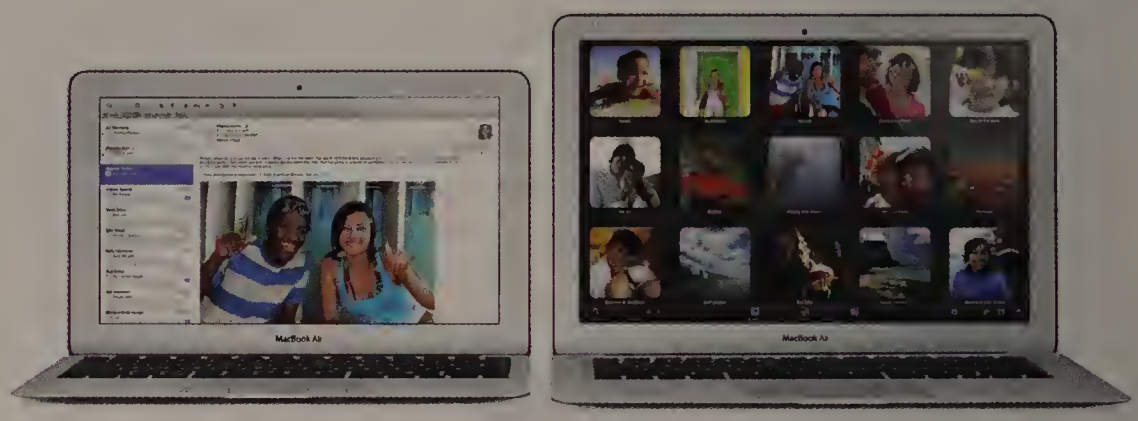
News and Analysis about Macs, OS X, and Apple

Ultimate MacBook Air 2012 Models: Worthy Upgrades for the Money

Build-to-order options give Apple's laptop more power

BY JAMES GALBRAITH

Apple usually offers optional upgrades that allow you to tailor a standard-configuration system to suit your individual needs. Macworld Lab ran performance benchmarks on two MacBook Air build-to-order (BTO) models, and the results show that while both custom systems are faster than the high-end stock MacBook Airs, the upgrades to the 11-inch model offer a bigger performance bang for the buck.



More Money, More Performance Apple offers processor upgrades to the high-end models for both the 11- and 13-inch MacBook Air.

11-Inch BTO MacBook Air

You can customize the stock $1099 11-inch 1.7GHz dual-core Core i5 MacBook Air with a 2.0GHz dual-core Core i7 processor for an extra $150. We gave our custom system 8GB of RAM rather than the standard 4GB, for an extra $100. Finally, we upgraded the flash storage from the standard 128GB to 256GB for an additional $300. The total price for this BTO MacBook Air came to $1649.

While this BTO system ended up costing 50 percent more than the stock high-end model, the upgrade boosted overall performance by 21 percent. Every test we ran benefited from the extra RAM, storage, and processing power, or a combination of those upgrades.

Aside from the faster clock speed, the 2.0GHz dual-core Core i7 upgrade has 4MB of shared L2 cache, as opposed to the 3MB present on the Core i5. Both the Core i5 and Core i7 processors feature Hyper Threading, which allows the processor to offer four virtual cores; and Turbo Boost, which enables the processor to crank itself up to faster clock speeds when necessary (up to 2.6GHz on the 1.7GHz Core i5 and up to 3.2GHz on the 2.0GHz Core i7).

In our Speedmark 7 benchmark tests that involve processor-intensive tasks, the BTO 11-inch MacBook Air was 12 to 18 percent faster than a standard 11-inch model. Our file-duplication test results (which involve less of the processor and more of the laptop's storage device) were 18 percent faster on the BTO 11-inch MacBook Air. And in the Aperture import-and-process test (which tests both storage and processor performance), the BTO model was 22 percent faster.

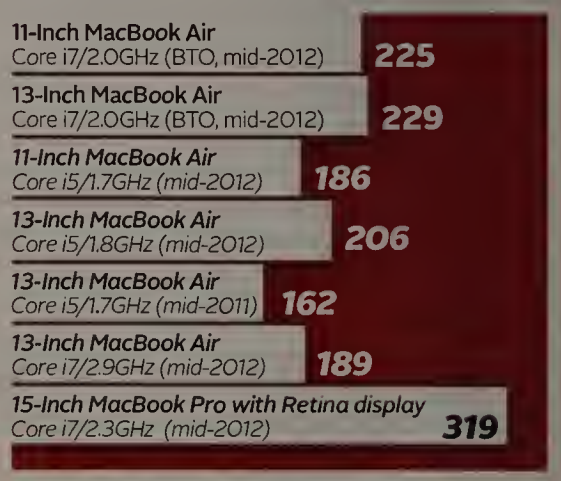
The results show that the upgrades to the 11-inch MacBook Air offer a bigger performance bang for the buck.

13-Inch BTO MacBook Air

For the 13-inch MacBook Air, we started with the high-end ($1499) model with a 1.8GHz dual-core Core i5 processor. We upgraded the standard configuration to the 2.0GHz dual-core Core i7 processor for $100 (this upgrade costs $50 less than it does on the 11-inch MacBook

Macworld Lab Test

Speedmark 7 Test Results



Longer bars are better. Reference systems are in *italics*. Speedmark 7 scores are relative to those of a 2.4GHz Core 2 Duo Mac mini (mid-2010) with 2GB of RAM, which is assigned a score of 100. For more on Speedmark 7 test results, go to macworld.com/7487.—MACWORLD LAB TESTING BY JAMES GALBRAITH, MAURICIO GRIJALVA, AND WILLIAM WANG

PHOTOGRAPH COURTESY OF APPLE

Air). We also upgraded to 8GB of RAM for an additional $100, and increased the amount of flash storage from 256GB to 512GB for an extra $500. The total cost of our ultimate BTO 13-inch MacBook Air was $2199.

However, these upgrades only increased performance 11 percent overall in our tests. Because the standard 13-inch MacBook Air started off with a faster processor and more flash storage capacity, you might expect the boost to be fairly subtle. Of course, the biggest expense by far in this custom upgrade was the increased storage capacity. That's not something you can evaluate with a stopwatch.

In the processor-intensive tests, the BTO 13-inch MacBook Air was about 14 percent faster.

The BTO 13-inch MacBook Air was 21 percent faster overall than the standard $1499 MacBook Pro with a 2.9GHz Core i7 processor. The Air's greater flash storage capacity enabled it to finish our duplicate-folder test 73 percent faster than the MacBook Pro and unzip a 4GB file 78 percent faster. The MacBook Air was also faster at importing files into iPhoto, iMovie, and Aperture. On tests that use multiple processing cores, the MacBook Pro beat the MacBook Air, scoring 7 percent higher in MathematicaMark 8 and 12 percent higher in Cinebench's CPU test and our Handbrake encode tests.

At $2199, our custom 13-inch MacBook Air cost exactly as much as a 2012 15-inch MacBook Pro with a Retina display and a 2.3GHz quad-core Core i7 processor, 8GB of RAM, and 250GB of flash storage. The Retina MacBook Pro was 39 percent faster overall than the BTO 13-inch MacBook Air, 71 percent faster in MathematicaMark 8, and 50 percent faster in the Cinebench CPU test. The Retina MacBook Pro was also able to display more than twice the number of frames per second in the Portal 2 test and 79 percent more frames per second in our Cinebench OpenGL test.

James Galbraith is the director of Macworld Lab.

Future of Retina-Ready Apps Looks Good

New software to take advantage of Apple's high-res display

BY JOEL MATHIS

June's launch of the MacBook Pro with Retina display initially caught third-party software developers flat-footed. But now developers are beginning to catch up with the new screen.

Updated titles that have been released include popular productivity apps such as Silvio Rizzi's Reeder and The Iconfactory's Twitteriffic. We've also seen a handful of Retina-ized games from vendors such as Aspyr, including titles from the popular Call of Duty and Star Wars franchises.

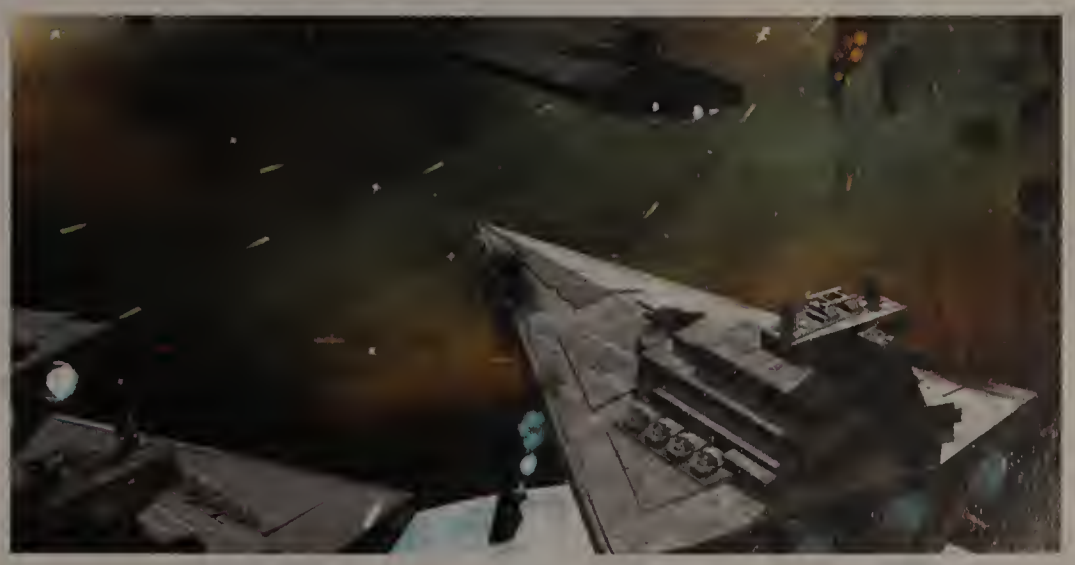
And it looks like more Retina-ready apps are on the way. *Macworld* contacted two dozen app developers to check the status of their updating efforts. Most said they were on the verge of releasing Retina-enabled updates for their software.

"Being a small company, we can't devote the resources to update everything all at once," said John Champlin, a spokesman for Ambrosia, "so we are prioritizing our product lineup and have begun updating what we can, as quick as we can."

Developers said they welcome the Retina display. The high-resolution screen "is pretty awesome, and I can't wait for it to be in every machine," said Flying Meat Software's Gus Mueller, who has released upgraded versions of the company's Acorn and VoodooPad applications.

Realmac Software's Nik Fletcher pointed to several challenges he faces in upgrading offerings like RapidWeaver. "One is working with pixel-based media and ensuring that [an image] displays accurately and translates across pixel densities," he said. "The other [is] that Retina-enabled Macs can obviously have non–Retina-enabled displays attached, so you need to also ensure that the user interface updates when dragging [on-screen items] between Retina and non-Retina displays."

Another challenge is that developers are juggling other updates as well. "Ideally, I would love to roll out a single update with all the graphics Retina-ready in one go, but given that Mountain Lion is out in the next couple of weeks, and we are unlikely to have all the toolbar icons completed by then, it will probably be done over a couple of updates," said Literature & Latte's Keith Blount, developer of the Scrivener writing program.

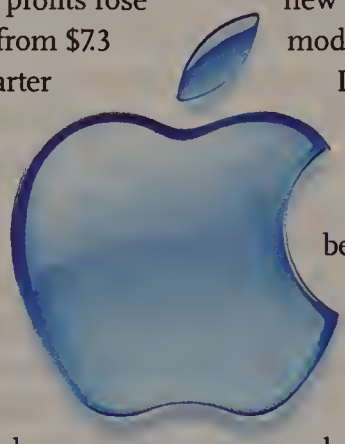


Empire at War Enjoy the Star Wars gaming universe in full Retina-resolution glory.

Record Q3 iPad Sales Help Apple Enjoy Revenue, Profit Growth

BY PHILIP MICHAELS

Apple's sales hit $35 billion for the third quarter of 2012, up 22 percent from $28.6 billion in the same period last year, while profits rose 20.5 percent to $8.8 billion from $7.3 billion. Earnings for the quarter were $9.32 a share, up 20 percent from last year. Reported earnings topped Apple's forecast, but fell short of Wall Street expectations of $10.35 per share on projected revenue of $37 billion.



Apple sold 17 million iPads during the quarter, the most the company has ever sold during a single quarter. The company broke records in this quarter for both Mac and iPhone sales—the latter figure coming even as customers have held off on purchasing a new iPhone in anticipation of a new model coming out later this year.

Despite the sales records, the third quarter saw the slowest growth rate for profit since 2009. Still, Apple finds itself better positioned than most tech companies. Sales of Macs, for example, rose during the quarter, while the rest of the PC market saw a 1 percent decline, according to figures from market research firm IDC.

Recognized revenue from the iPad lineup hit $9.2 billion for the quarter, up 53 percent from the $6 billion in revenue Apple recorded for that quarter last year. The company says it sold twice as many iPads as Macs to its educational customers.

Apple sold 4 million Macs, up slightly from the 3.9 million Macs it sold in the same quarter in 2011. Even with the slight 2 percent gain, Apple still sold more Macs in this three-month period than in any previous June quarter.

The revamped MacBook Air and MacBook Pro models that Apple released in June 2012 primarily drove Mac sales, even though those notebooks came out less than three weeks before the end of the June quarter.

Apple sold 26 million iPhones during the quarter, compared to 20.3 million

last year, another June quarter record for the company. The 28 percent growth in iPhone sales also exceeded what Apple factored into its quarter guidance.

Apple's iPod sales saw a dip. The company sold 6.8 million iPods, down from 7.5 million in the same quarter in 2011. The average selling price for iPods was also down for the quarter. Still, Apple notes that the iPod continues to hold a 70 percent share of the music-player market.

Revenue from the iTunes Store topped $1.8 billion for the quarter (up from $1.4 billion for the same quarter in 2011). Apple expanded its online music, movie, TV, and app store to 12 more countries.

Apple opened nine new retail stores during the quarter, ending June with 373 Apple Stores. The retail stores brought in $4.1 billion in revenue, up 17 percent on the strength of record iPad sales. The stores sold 791,000 new Macs, with almost half going to customers new to the platform.

UltraDock 5 Great for Connecting Bare Hard Drives

BY KEAN BARTELMAN

REVIEW The WiebeTech UltraDock 5 is a multi-interface dock that enables users to connect a variety of drive mechanisms to a Mac.

Targeted at IT professionals, but handy for any user who works with hardware components, the UltraDock 5 has eSATA, FireWire 400, FireWire 800, and USB 3 ports for connecting compatible drives to a computer. The UltraDock 5 also has native SATA and IDE/PATA connections for your hard drives, making the dock compatible with most drives on the market.

At a pocket-size 4.3 by 2.95 by 0.87 inches and encased in a durable aluminum body, this adapter is small and hardy enough to travel anywhere.

Macworld's Buying Advice

The $249 WiebeTech UltraDock 5 is a great piece of hardware. This compact device lets you access virtually any kind of drive from your Mac, and the device itself can connect to your Mac via a variety of interfaces. It's a great tool for IT workers who need to troubleshoot or deploy hard drives for multiple users, but also for the rest of us.

4½; $249; WiebeTech; wiebetech.com

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The Macintosh II: Celebrating 25 Years

The color Mac was a departure from Apple's early philosophy

BY BENJ EDWARDS

Twenty-five years ago, Apple released the Macintosh II, a powerful, expandable desktop computer that echoed the experimental philosophy of Apple's earliest machines and ignited a new wave of enthusiasm for the Macintosh platform.

In 1986, a 28-year-old Apple engineer named Michael Dhuey wrote a two-page proposal for a six-slot, modular, color-enabled Macintosh. Jean Louis Gassée, then vice president of product development for Apple, quickly signed off on Dhuey's proposal as one of three competing Mac upgrade projects. Dhuey's design won out, and a 16-person team brought the Macintosh II to life.

Apple offered both monochrome and color monitors for the Mac II, but customers mostly sprang for the color models, which marked a significant upgrade in a computer line that had previously displayed only black or white pixels. That preference threw Apple's marketing department off guard, so it took some time before Apple could meet the demand for color Mac II systems.

Color on the Macintosh II was a particularly glorious thing, because not only could the new system display color, but it supported a color depth of up to 32 bits per pixel—equivalent to the color standard used in desktop PCs today, 25 years later. At 24 bits, there's enough depth to show any image with colors that are indistinguishable from those of a color photo, and that was a very big deal in 1987. Such capabilities opened the door for consumer-level photo-editing apps like Photoshop, which (unsurprisingly) originated on the Mac platform.

The press and customers alike lavished praise on the new machine. Despite its high cost, the Mac II sold very well and established a follow-up line of expandable computers that extended into the mid-1990s. More important, the Macintosh II inspired the high-end Power Mac, as well as the Mac Pro line that continues today. However, Apple has abandoned the open-architecture philosophy it espoused with the Mac II in favor of the closed-box iPad-style approach. This has brought Steve Jobs's original "silent appliance" philosophy for the Mac full circle.

Macintosh II Apple's first color Mac.

The Mac II served as the perfect transition to the future for Apple, because at that time the industry demanded hardware flexibility. Michael Dhuey, who also worked on the iPod, thinks Apple would have been a much smaller company without the Mac II. "The original Macintosh was not meeting expectations, and the professional market needed something better," he says.

Macs: Current Lineup

PRODUCT	SPECS	RATING	PRICE	DISPLAY	SPEEDMARK 7 [1]	FIND CODE [2]
DESKTOP						
iMac	Intel Core i5/2.5GHz (quad-core)	4	$1199	21.5 inches	211	7197
	Intel Core i5/2.7GHz (quad-core)	4	$1499	21.5 inches	229	7198
	Intel Core i5/2.7GHz (quad-core)	4	$1699	27 inches	225	7199
	Intel Core i5/3.1GHz (quad-core)	4	$1999	27 inches	241	7200
Mac Mini	Intel Core i5/2.3GHz	4	$599	not included	132	7429
	Intel Core i5/2.5GHz	4	$799	not included	161	7430
Mac Pro	Intel Xeon/3.2GHz (quad-core)	3½	$2499	not included	254	7863
	Intel Xeon/2.4GHz (12-core)	3½	$3799	not included	259	7864
PORTABLE						
MacBook Air	Intel Core i5/1.7GHz, 64GB	4½	$999	11 inches	231	7865
	Intel Core i5/1.7GHz, 128GB	5	$1099	11 inches	251	7866
	Intel Core i5/1.8GHz, 128GB	4½	$1199	13 inches	291	7867
	Intel Core i5/1.8GHz, 256GB	4½	$1499	13 inches	324	7868
MacBook Pro	Intel Core i5/2.5GHz (dual-core)	3½	$1199	13 inches	161	7869
	Intel Core i7/2.9GHz (dual-core)	4	$1499	13 inches	189	7870
	Intel Core i7/2.3GHz (quad-core)	4	$1799	15 inches	221	7871
	Intel Core i7/2.6GHz (quad-core)	4	$2199	15 inches	239	7872
	Intel Core i7/2.3GHz (quad-core) [3]	4½	$2199	15 inches	319	7873
	Intel Core i7/2.6GHz (quad-core) [3]	4½	$2799	15 inches	330	7874

n/a = not available. [1] Speedmark 7 is Macworld Lab's standard test tool for benchmarking systems running Mac OS X 10.7 (Lion). For more information on Speedmark testing, go to macworld.co /7487. In a browser's address field, typing in a find code after *macworld.com/* takes you to a product's review or overview. [3] Equipped with a Retina display.

vmware

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Macworld HOT STUFF

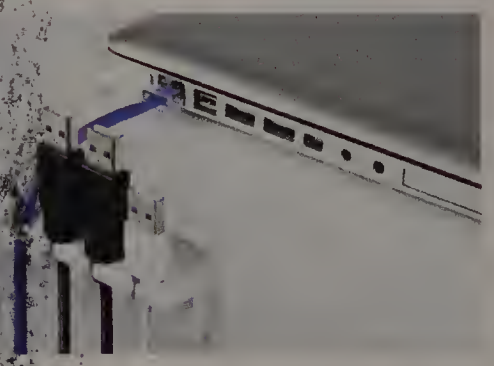
What We're Raving about This Month

RocketStor 5122B

Got a bunch of bare hard drives and solid-state drives (SSDs), but no cases for them? You needn't buy a case for each drive. Instead, try HighPoint's $90 storage dock, which features a pair of 6-gigabits-per-second docks that can accommodate SSDs and hard-drive mechanisms equipped with SATA. The RocketStor 5122B has a pair of independent USB 3.0 ports, with each port dedicated to one of the drive bays to help optimize performance. Just slip a drive into a bay, and the drive appears on your Mac's desktop like a regular drive. You can easily remove a drive when you don't need it. Each port is designed for use with 2.5- or 3.5-inch drive mechanisms (highpoint-tech.com).—ROMAN LOYOLA

ST-UHA USB 2.0 Hub

You can never have too many USB ports, and Satechi's $28 USB hub lets you add four more ports to your Mac. Satechi's hub is encased in aluminum, and its power button resembles the one on the Apple Wireless Keyboard, so the hub matches your Mac perfectly. It's also small enough to stash in your bag (satechi.net).—ROMAN LOYOLA



CableStrip

You can go insane trying to keep all the cables connected to your Mac neat and tidy. Rockpool Designs' $10 CableStrip can restore your sanity with its easy-to-use cable management. Just affix a CableStrip to the edge of a desk, and then feed your cables through the CableStrip's holes. That sinking feeling you get when you disconnect a cable and it slides underneath your desk will vanish forever (rockpooldesigns.com).—ROMAN LOYOLA

Carbon Copy Cloner 3.5

A hard-drive clone—an exact copy of all the data written to a hard drive—is handy to have in addition to regular Time Machine backups, and Bombich Software's $40 Carbon Copy Cloner is a great application to use for cloning. You can use the clone as a boot drive on your Mac anytime you need to quickly get back up and running. The newest version is fully compatible with Mountain Lion, and Bombich has improved support for OS X's Recovery HD so it can better handle multiple backup volumes (bombich.com).—ROMAN LOYOLA

MY NET N900 CENTRAL

Western Digital's new wireless router is designed with high-bandwidth demands in mind: video streaming, games, and network backups. Featuring dual-band 802.11n networking, the My Net N900 Central has five gigabit ethernet ports, an integrated 1TB or 2TB hard drive that you can use for Time Machine backups, and a USB port for connecting a printer or another hard drive. The router also supports remote access, either via the Web or an iOS app. The My Net N900 Central costs $300 with a 1TB hard drive, and $350 with a 2TB drive (wdc.com).—ROMAN LOYOLA

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The iPhone at Five

Five key developments over the past five years changed everything

BY DAN MOREN

On the surface, the iPhone of today may resemble the one that Steve Jobs introduced in January 2007 and that arrived in stores some months after that. But in the five years since, Apple's smartphone has improved in countless ways, major and minor.

A few moments in the iPhone's lifespan were particularly significant—the kinds of moments when everything changed, even if we didn't realize it at the time. But cumulatively those changes have made the iPhone into the technological phenomenon that it is today.

Cheaper Pricing

Hard as it may be to believe, the original iPhone was downright expensive: $499 for the 4GB model, $599 for the 8GB version, and $699 for the 16GB alternative. AT&T didn't subsidize these prices; instead, Apple took a cut of the monthly fees that customers paid for service.

It's the Apps The iPhone would be just another pretty hunk of hardware if it weren't for the apps—from Apple and third-party developers—sold at the App Store.

The cumulative effect of these changes has made the iPhone the technological phenomenon that it is today.

Less than three months after the iPhone's release, however, Apple killed the 4GB model and dropped the 8GB's price by $200. This lower price point set a precedent for future models; with the release of the second-generation iPhone 3G in 2008, Apple established prices that remain in effect today: $199 for the introductory-level model, with $100 price increases for each incremental level of available storage above that.

The change in pricing was crucial to the iPhone's adoption, not only because it made the device more affordable, but also because it altered the public's perception of it. At $500, the iPhone was a luxury, but at $200, it could be a Christmas present for your kids. And as previous-generation models became available for $99 and $50 (or occasionally free, thanks to contract subsidies), pricing became even more compelling.

App Store

As introduced, the iPhone was a gadget—a really cool one, to be sure, but a gizmo nonetheless. The launch of the App Store in 2008 turned it into a platform that rivaled—and now may even surpass—the Mac.

That progress hasn't been without missteps. There was the infamous Steve Jobs declaration that native apps weren't needed because Web apps were "a pretty sweet solution." There have been the many well-documented problems with Apple's app-review process. But the App Store has nevertheless revolutionized the way iPhone users work and play.

The Advent of 3G

It's easy to forget that the original iPhone didn't have 3G networking. At the time, 3G was just coming into vogue: The iPhone launched at a historical moment when 3G chips were still too bulky and battery intensive, and when the network didn't yet reach most customers.

Instead, the first iPhones worked only on the EDGE networks that were then still common. Granted, to those of us who were buying our first smartphones, sheer data speed mattered less than all the stuff we could do with the device. But that didn't stop many critics from knocking the earliest iPhone's lack of a fast cellular connection.

Of course, Apple would fix that problem within a year. In tandem with the device's price drop, 3G helped usher in a huge number of new customers,

Apple Inside Using chips that it makes itself has given Apple an unprecedented level of design control over the iPhone—even more than it has over the Mac.

fixing what many critics saw as a key deficiency and making it an even more compelling product. With its adoption of 4G LTE on the iPhone, Apple finds itself in a similar position today to the one it faced with 3G: Despite what your iPhone menu bar might tell you, four years later the phone still runs on 3G networks, albeit on somewhat speedier ones.

The A4 Processor

The guts of the iPhone and iPad may not be of much interest to folks who are mainly concerned about playing Angry Birds and checking their email. But Apple's introduction of the iPad in 2010 brought with it an interesting innovation: An Apple-built processor called the A4 powered the tablet. And soon enough, that A4 processor made its way into the fourth-generation iPhone.

Even on the Mac, the company never went so far as to manufacture its own processors, though it did work closely with Motorola, IBM, and later Intel on that front. The A4 and its successors, the A5 and A5X, demonstrate that Apple remains committed to making the whole widget—and this time it means the *whole* widget. The company is leaving nothing to chance in putting together the products that have become its best-sellers; and if that commitment means having to figure out how to build its own processors, then so be it.

Verizon Enters the Picture

In many ways, it's surprising that Apple stayed as long as it did with a single carrier partner in the United States. Overseas, Apple has long had deals with multiple carriers in plenty of countries. But in the United States, AT&T held exclusive rights through early 2011. Not until January of that year did Apple announce that it would bring the iPhone 4 to Verizon's network.

Though that announcement didn't spur the huge sales spike that many analysts had predicted, the move was an extremely important part of Apple's long-term strategy to ensure that future iPhones would be available in the United States on multiple carriers. So even as Apple continued to improve the iPhone itself, more and more customers were in a position to buy the device.

That number increased when Apple made a deal with Sprint for the iPhone 4S, and it has continued to grow with the addition of several regional carriers. The company's goal was to reduce the friction of the purchasing decision: You no longer have to switch carriers to get the iPhone, because chances are it's available on whatever carrier you use. In addition, the strategy takes some of the wind out of carriers' sails and puts more control into Apple's hands.

Apple's roster of partners has expanded into the prepaid market. Carriers such as Cricket and Virgin Mobile now offer the iPhone with little or no subsidy, in exchange for cheaper data plans. By the time the next iPhone rolls around, pretty much any customer who wants one will be able to get one, regardless of carrier.

Unless, of course, that carrier happens to be T-Mobile.

Senior Editor **Dan Moren** still mourns having been stuck in Las Vegas for the iPhone's introduction.

Who Knew? Sure, the iPhone made a big splash when Steve Jobs introduced it in 2007. But that was only the beginning of its evolution.

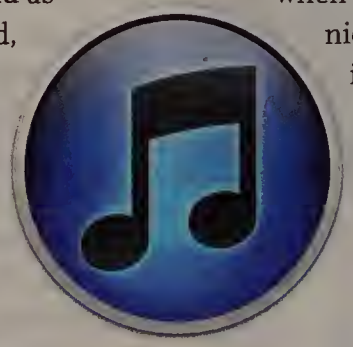
STEVE JOBS PHOTOGRAPH BY PETER BELANGER

The App Store's Rough Summer

BY MACWORLD STAFF

If the iTunes App Store were a real-life emporium, this past summer might have convinced the proprietors to close up shop and move to Florida. There was the in-app–purchase hack, and then the apps that crashed as soon as they were downloaded, and finally the app that stole users' contact lists.

Despite the headaches, the Store was still open last time we checked.



Free Money

When you make an in-app purchase, Apple sends the app a receipt to confirm that you've done so. The app then pings Apple's servers to confirm the validity of the forwarded receipt.

At least, that's what's supposed to happen. And it did, until a Russian programmer came up with a hack that fooled apps into believing that they were communicating with the App Store, when they were actually communicating with a fake store. That imposter issued fake receipts that looked legitimate to iOS devices; and these receipts unlocked the purchased functionality, just like the real thing.

Of course, that trickery required some help from users, who had to install bogus certificates and use a special DNS server.

The hack exposed a flaw in Apple's approach to receipt validation. In lieu of fixing the entire architecture, Apple reportedly made two private APIs available to developers to forestall such fakery. The company also said that iOS 6 would make such exploits impossible.

Quick Crashing

Late one Tuesday in July, Marco Arment, developer of Instapaper, announced the availability of version 4.2.3 of Instapaper, his app for reading saved online articles. Not 15 minutes later, he posted a second message on Twitter, warning users about "a serious problem" with the update.

Customers who downloaded the update in the meantime and attempted to run it experienced immediate crashes. Unhappy users quickly hit the updated app with a flurry of one-star reviews.

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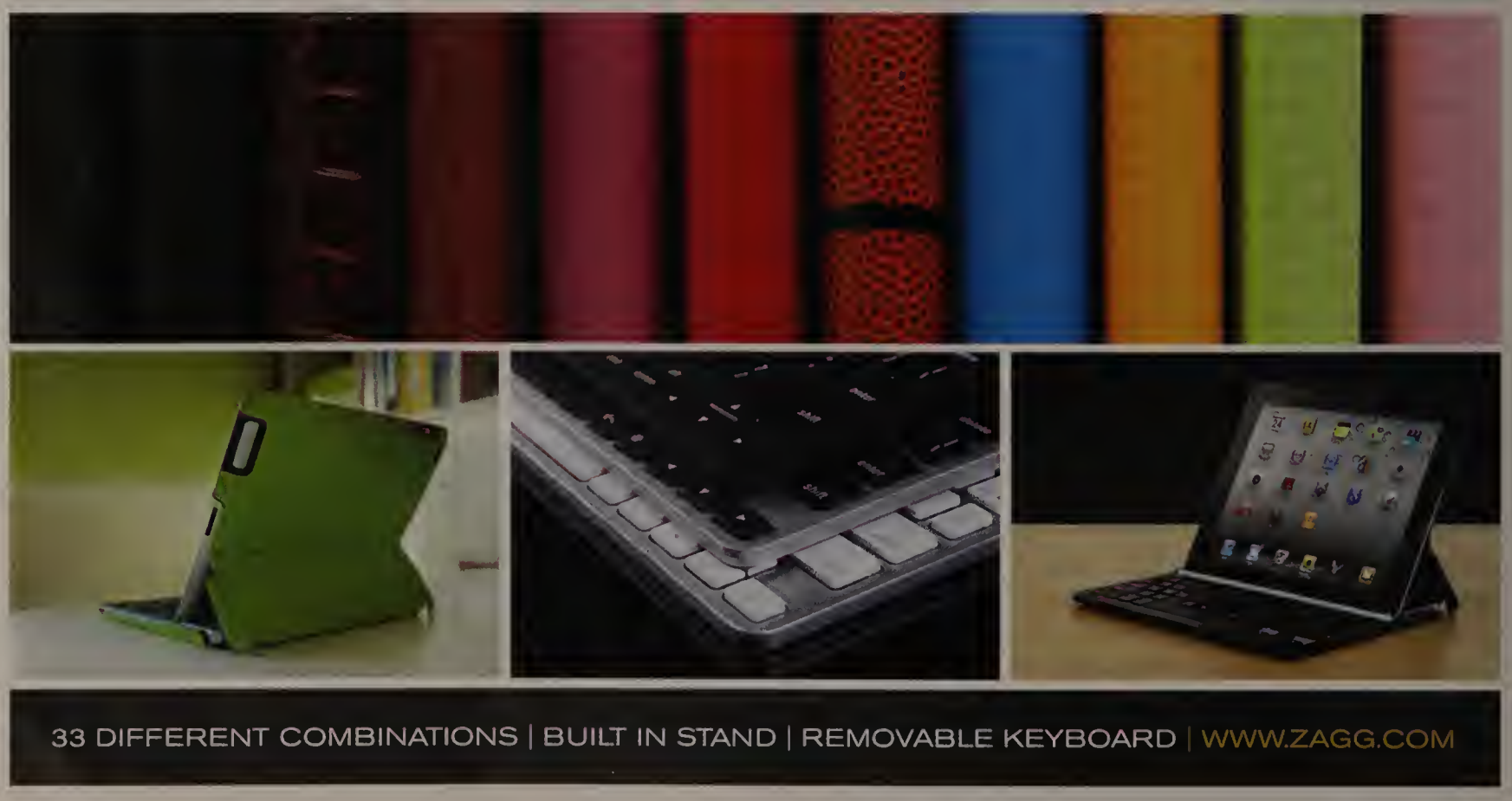

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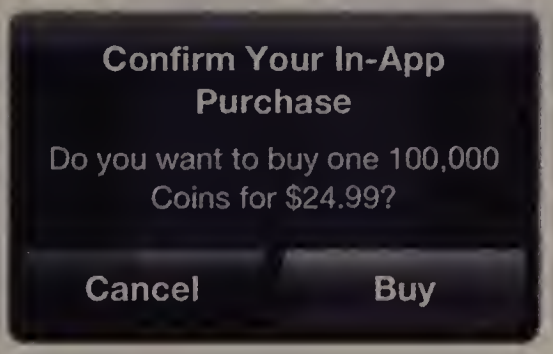
But it wasn't Arment's fault. His was one of 100 or so apps—including Angry Birds Space and GoodReader—that got bitten by a bug on Apple's back end. Functional, approved code somehow became corrupted, causing the crashes. Apple isolated the problem on a machine that generated digital rights management (DRM) code for apps. At the time, Apple said: "The issue has been rectified and we don't expect it to occur again."

The bug had bad repercussions for some users. In theory, Apple's servers should be ready to distribute a new app binary as soon as the company starts sending update notifications to users' devices. But something can go wrong inside Apple's distribution servers, causing customers to receive a damaged binary. (Though the exact reason as yet remains unclear, it may have something to do with incomplete encryption.) iOS does not recognize those binaries as valid App Store executable binaries, and hence it simply refuses to launch them.



Purchase Problems A hack this summer let iOS device owners circumvent in-app purchases.

Of course, users who downloaded the crippled apps didn't know that the problems were Apple's fault—hence the slew of one-star reviews. At press time, Apple was removing the unfair pans.

Oversharing

Finally, there was Find and Call. When users installed that app, it asked them to register their phone numbers and email addresses. It also asked them whether they wanted to "find friends in a phone book." But behind its politely inquisitive interface, Find and Call was quietly uploading users' entire contact lists to a remote server. The app then proceeded to send SMS messages to those contacts, with a link for downloading the app. Because the SMS messages appeared to come from friends, the recipients were much likelier to click the link. Apple removed Find & Call quickly from the App Store.

While malware in the App Store isn't anything new, the real concern was that such an app managed to penetrate Apple's walled garden in the first place. It gave users reason to wonder whether other dangerous apps might have slipped past Apple's screeners. You can hope it was a fluke. But with this (as with seemingly free in-app purchases), it's best to maintain a suspicious attitude before you click the Buy App button.

YOU NEED
PROTECTION
BODYGUARDZ

AT&T Introduces Shared Data Plans

BY JOEL MATHIS

Anyone who has had to juggle multiple AT&T data plans for their iPhones and 3G-enabled iPads now has an alternative: The carrier's new Mobile Share program lets a single plan cover up to 10 devices.

Under the plan, consumers can pick from various data plans for one smartphone, ranging from $85 a month for 1GB of data and unlimited talk and text options ($40 for the base plan and $45 for the smartphone) to $230 a month for 20GB of data. From there, they can add up to 10 devices—$30 a month for every "dumb" cell phone, $20 a month for each laptop or netbook, and $10 a month for each tablet or gaming device. The price per gigabyte and the fee per smartphone both get cheaper if you buy a larger bucket of data.

How does that arrangement compare with AT&T's existing data plans? Say that you own one iPad and one iPhone, and that you're using AT&T's current 3GB data plans on each. Then you pay $30 a month for your iPad and $90 a month for data, texting, and 450 minutes of talk time on your iPhone, for a total of $120 a month. Under the new Mobile Share program, the same two devices using 6GB a month of data would cost $135 a month ($90 for the base plan, $35 for the phone, and another $10 for the tablet), not including taxes and fees.

But that increase is necessary only if you use 3GB a month on both devices. Since you can share the data allotment between your iPad and iPhone, you can opt for the 4GB-a-month plan—and pay the same $120 a month that you pay now.

The benefits of the new plan kick in as you connect more devices and use more data. Households that—like mine—have a single 3G-enabled iPad and two iPhones sharing a 700-minute family-talk plan with unlimited texting used to pay $190 a month under the old AT&T plan. (That's with the 3GB data plan for each.) Under the Mobile Share program, we could get 10GB of data for that price—and if we opt for the 6GB data plan for all three devices, our monthly bill drops to $170.

If you are already an AT&T customer, you can log in to your account and see how much data you're using. That information will make it easier to figure out whether Mobile Share makes sense for you. Existing customers don't have to convert to the program, but if they'd like to, they can do so without extending their current AT&T contract.

Your Monthly Data Costs

	1GB	4GB	6GB	10GB	15GB	20GB
Base plan (Mobile Share with unlimited talk and text options)	$40	$70	$90	$120	$160	$200
Per each additional smartphone	$45	$40	$35	$30	$30	$30
Per each additional "dumb" phone	$30	$30	$30	$30	$30	$30
Per each additional laptop, LaptopConnect card, or netbook	$20	$20	$20	$20	$20	$20
Per each additional tablet or gaming device	$10	$10	$10	$10	$10	$10

Source: AT&T.

What's New at the App Store

This month we have new ways to bank, check the weather, and protect your secrets from prying eyes.

iBank for iPad

For people who track their finances in fine detail, IGG Software brings its iBank software (macworld.com/7898) to the iPad. The app lets you track your stocks, bonds, mutual funds, IRAs, 401ks, ETFs, CDs, and other assets, and manage multiple accounts while doing so: A dashboard provides a financial overview at a glance. The app costs $15 to download, plus $40 a year for the service.

WTHR

If you want your weather forecasts uncomplicated—and soothingly beautiful—then David Elgena's $1 WTHR app (macworld.com/7902) is for you. With its stripped-down aesthetic, WTHR offers local weather conditions, a seven-day-forecast, and the ability to toggle between Fahrenheit and Celsius displays of the temperature. But the app doesn't get much more complicated than that. Even in a hurricane, checking the WTHR forecast will make you feel relaxed.

Wickr

You didn't hear this from us, but this free app (macworld.com/7903) from Robert Statica purportedly offers "military-grade" protection for your communications—deleting, for example, all the metadata from image, video, and audio files that you send, and even reportedly giving users control over who reads their messages, where, and for how long. The app also boasts "the best anti-forensic privacy protection"—which means that when the CIA comes looking for you, it will be harder for the agency to crack your secrets.

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You are (check one) ☐ Home/Home Office ☐ Business (<1000 employees) ☐ Large Corporation (>1000 employees) ☐ Government, Education, Public Organization ☐ APC Sellers and Partners

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Mac® computers can do just about anything.

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Introducing the reinvention of backup power — the APC Back-UPS: unsurpassed protection for iMac computers and more.

Reliable power backup for 24/7 availability

Whether creating digital projects, updating your Facebook status, or working furiously to meet a deadline, you depend on your iMac® every day, all day. That's why APC™ by Schneider Electric™ has designed battery backup units that protect that uninterrupted availability you expect from your iMac. Introducing the reinvention of backup power protection: the APC Back-UPS™!

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When the power goes out, our Back-UPS units go to work. They instantly switch your iMac to emergency power, allowing you to work through brief power outages or safely shut down so you won't lose valuable files. They also feature surge outlets to safeguard your electronics and data from "dirty" power and damaging power surges — even lightning. Plus, their energy-efficient design reduces electricity use, so you start saving money the minute you plug in a Back-UPS unit. And power-saving outlets automatically shut off power to unused devices when your iMac is turned off or in standby, eliminating wasteful electricity drains.

Trusted insurance for what matters most

Our units protect your iMac and much more, including MacBook® computers wired and wireless networks, DVRs, gaming consoles, and external storage devices. APC Back-UPS is the trusted insurance you need to stay up and running and protected from unpredictable power and energy waste!

Keep your electronics up and your energy use down!

Back-UPS models are available with the features and runtime capacity that best suit your application, and many models have been designed with power-saving features to reduce costs.

The High-performance Back-UPS Pro Series

High-performance Back-UPS Pro units deliver cost-cutting, energy-efficient features. Power-saving outlets automatically shut off power to unused devices when your computer is turned off or is in standby, eliminating wasteful electricity drains.
(BR700G shown above)

The Energy-efficient ES 750G

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- 10 Outlets
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- Coax and Telephone/Network Surge Protection

The Best-value ES 550G

The Back-UPS ES 550 uses an ultra-efficient design that consumes less power during normal operation than any other battery backup in its class, saving you money on your electricity bill.

- 8 Outlets
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- 43 minutes maximum runtime
- Telephone Surge Protection

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APP GUIDE

Software for Your iPhone, iPod Touch, and iPad

Air Mail

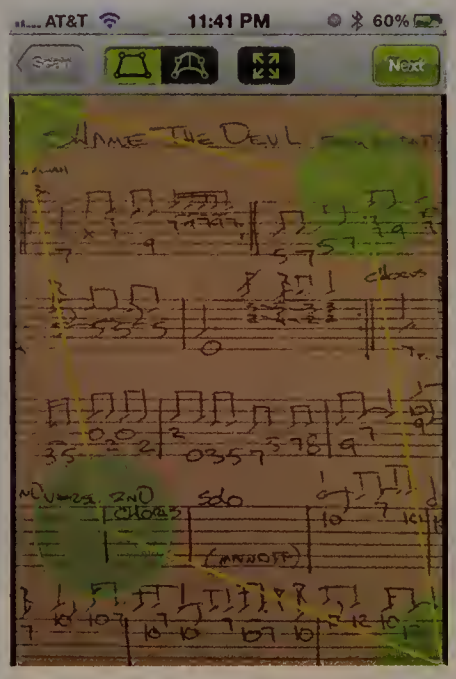
GAMES The flight simulator Air Mail is one of the few App Store games that truly offers entertainment for all ages. You're a delivery pilot stationed on a chain of islands, carrying cargo, putting out fires, and helping with a freedom fight that takes place over several different landscapes. Core gameplay centers on simple aviation, and while Air Mail's physics are on the cartoonish side, they're forgiving enough to allow you to avoid most obstacles. The game lacks polish in a few areas, but overall Air Mail offers a charming and original ride.—CHRIS HOLT

iPhone/iPad | ★★★★; $3; Chillingo

Remarks 1.4

PRODUCTIVITY Another entry in the growing list of PDF reader and annotation apps for iOS, Remarks is a good tool for making quick notations on PDFs and for taking short notes. The app provides most of the tools you'll need to create basic notes and annotations, and a recent update added the ability to record audio notes, making Remarks a useful addition to any lecture or meeting. The app has some quirks when it comes to copying and pasting, editing annotations, and selecting tools, but it's still a quite functional option.—BRIAN BEAM

iPad | ★★★★; $5; Readdle



Doc Scan Pro 4.6

PRODUCTIVITY When you're turning a mountain of paper into a mountain of bits, Doc Scan Pro—or its iPad equivalent, Doc Scan HD Pro (macworld.com/7889)—produces good results. After you photograph a document with your iPhone's camera, the app places an adjustable grid around the area it thinks you want to scan. You can save scans on your phone or upload them to cloud storage services. The scan quality is good and the file sizes are reasonable—important considerations for saving space on your device and conserving bandwidth.—BRIAN BEAM

iPhone | ★★★★½; $2; iFunplay

APP GEMS

Top iOS Scanners

Scanner Pro ★★★★½
Unique features like a helpful magnifier give this app an edge (macworld.com/7563).

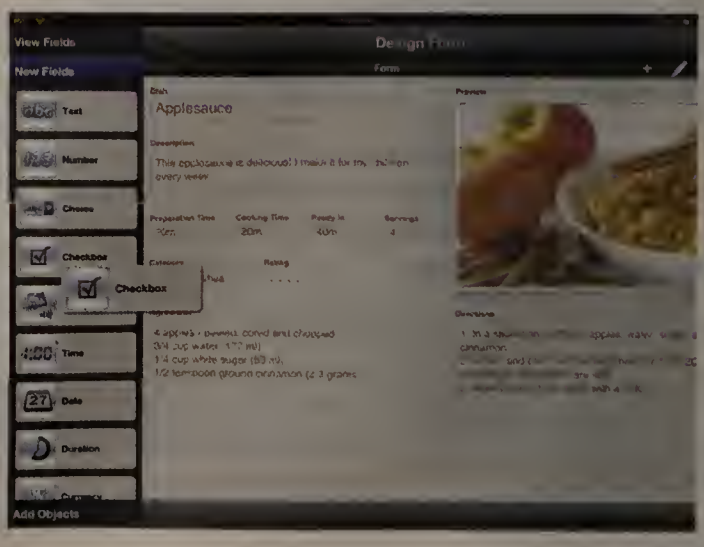
We also like:

Genius Scan+ ★★★★
macworld.com/7896

TurboScan ★★★½
macworld.com/7897

Find other business apps at macworld.com/7851.

Bento 4 for iPad



PRODUCTIVITY An already useful and powerful personal database app gets a significant upgrade with Bento 4. The app's redesigned interface simplifies creating and adding data to your databases. Bento offers 40 Retina-ready themes, so your databases look sharp on a third-generation iPad. And you no longer need the Mac version of Bento (www.macworld.com/a/1158903) to create sophisticated databases: The stand-alone Bento 4 is just as capable of creating and managing collections of information as its desktop counterpart.—JEFFERY BATTERSBY

iPad | ★★★★; $10; FileMaker

Launch Center Pro 1.0.2

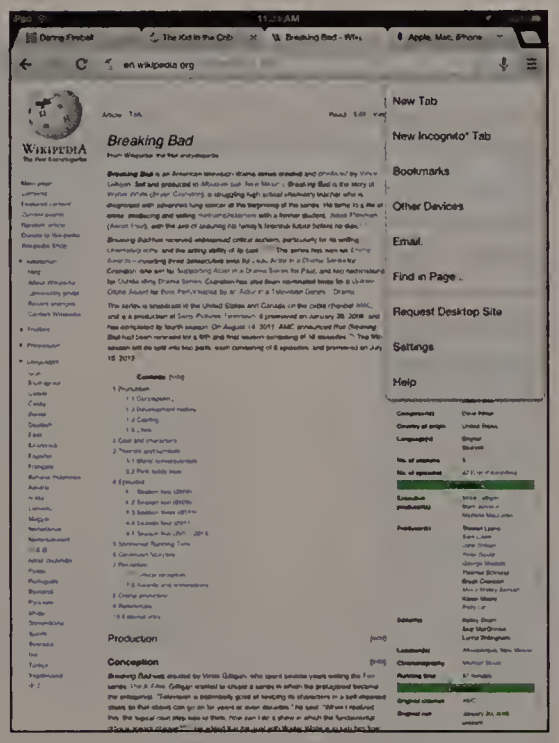
UTILITIES iOS lacks the keyboard-based launch utilities you'll find on OS X, but Launch Center Pro is a good alternative. The app offers a robust, touch-driven interface that provides a clever way to navigate the iPhone or iPod touch more quickly. While you can configure Launch Center just to launch apps, you can also use it to trigger specific actions within apps—calling a contact, say, or turning on your iPhone's LED flash to act as a flashlight. You can group collections of actions in a single icon for quick access to different iPhone functions.—**LEX FRIEDMAN**

iPhone | ★★★★½; $5; App Cubby

Chrome 19.0.1084.60

WEB Google's Chrome browser for iOS is a pleasure to use. Log into Chrome with a Google account, and you can quickly open pages you visited in the Mac browser or on another mobile device. The single field for URLs and searches saves screen space, and a microphone button lets you perform voice-driven searches. Chrome suffers from some Apple-imposed limitations—you can't make it your default browser, for example—but its interface is in many ways superior to that of the default iOS browser.—**LEX FRIEDMAN**

iPhone/iPad | ★★★½; free; Google



More Reviews

See more iPhone, iPad, and iPod touch apps we've tested at iOS Central (macworld.com/4164).

APPLICATION	DESCRIPTION	PRICE	RATING	FIND CODE*
Barefoot World Atlas 1.1.0 Touch Press	interactive iPad atlas for kids	$8	★★★★	7890
Centipede Origins Atari	iPhone/iPad arcade game	$1	★★★½	7891
Givit 1.4.2 Vmix Media	iPhone/iPad video-sharing app	free	★★★½	7894
Mega Run 1.1.0 Get Set Games	iPhone/iPad side-scrolling platform game	free	★★★★	7892
Negro Leagues Baseball Museum 1.1 RareWire	baseball reference app for iPad	$4	★★★½	7893

* In your browser's address field, typing a find code after *macworld.com/* directs you to a product's review or overview. For example, macworld.com/7890 takes you to our review of Barefoot World Atlas.

ESSENTIAL APPS

2012 Apple Design Award Winners

These iOS apps took top honors at Apple's annual software awards (macworld.com/7895).

Jetpack Joyride ★★★★½
Halfbrick Studio's cave-flyer game keeps you coming back.

Where's My Water? ★★★½
Disney's offering is a great example of a fun physics puzzle.

Paper by FiftyThree ★★★½
Sketchbook app gets the notebook interface right.

National Parks ★★★★
National Geographic offers a lovely paean to U.S. parks.

Toca Train 1.0.1

GAMES Developer Toca Boca's apps are more like digital playsets for toddlers than they are like games. Toca Train is a perfect example: It turns your iOS device into a train set. The controls are easy to use, and finger swipes let you pan around the highly detailed landscape. Toca Train is an engaging app that rewards kids and parents who play together.—**PHILIP MICHAELS**

iPhone/iPad | ★★★★½; $2; Toca Boca

App Guide

AppGuide.com features our complete database of iOS app reviews.

REVIEWS

Accessories and Add-ons for Your iOS Devices

HARDWARE

iHome iD9 ▷

iHome's iD9 is a portable, rechargeable stereo-speaker dock for your iOS devices and iPods. Simply place your iOS device in the iD9's cradle and start rocking out. An internal battery packs enough juice to last for around 4.5 hours of playback at a reasonable volume. If you connect the dock to AC power, it will even charge your docked device. The basic device generates nice, though not jaw-dropping, sound around your home, and it can even provide a battery-powered soundtrack for a small outdoor gathering.

●●●½; $100; iHome; www.ihomeaudio.com

Incipio OffGrid Pro ▷

Incipio's OffGrid Pro backup battery case offers a unique take on a case that combines protection and extra juice for your iPhone 4 or 4S. The removable 1700mAh battery sits in a recessed space in the inside back of the case, and the package includes a second battery that you can charge while the other battery is in use; you can swap the batteries in and out as needed. The main part of the two-piece case covers the back and dock connector, and a wraparound bumper fits your phone tightly. The svelte OffGrid Pro measures 5.0 inches high by 2.4 inches wide by 0.6 inches thick, and weighs just 2.5 ounces. Its polycarbonate surface feels a little slippery and the case doesn't offer any screen protection, but the batteries should double your iPhone's charge.

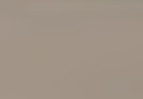
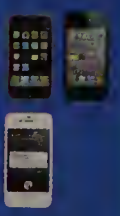
●●●½; $100; Incipio; www.incipio.com

Logitech Wireless Solar Keyboard K760 ▽

Logitech's Wireless Solar Keyboard K760 is a full-size (11.5 inches wide) keyboard that looks right at home in front of a Mac, but is also designed to work with iPads and iPhones: Its F-keys provide special features for Macs and iOS devices, and it's compact enough that you can toss it in a bag along with your iPad. The Bluetooth keyboard's ability to pair with up to three devices and switch between them at the press of an F-key makes it ideal for people who carry lots of Apple gear. The K760 can draw power to recharge its battery even from dim ambient light in your home or office. In a well-lit room, the charge rarely dips below full. The K760's low-profile, short-travel keys are slightly easier to press than those on Apple's keyboards, and they offer better tactile feedback.

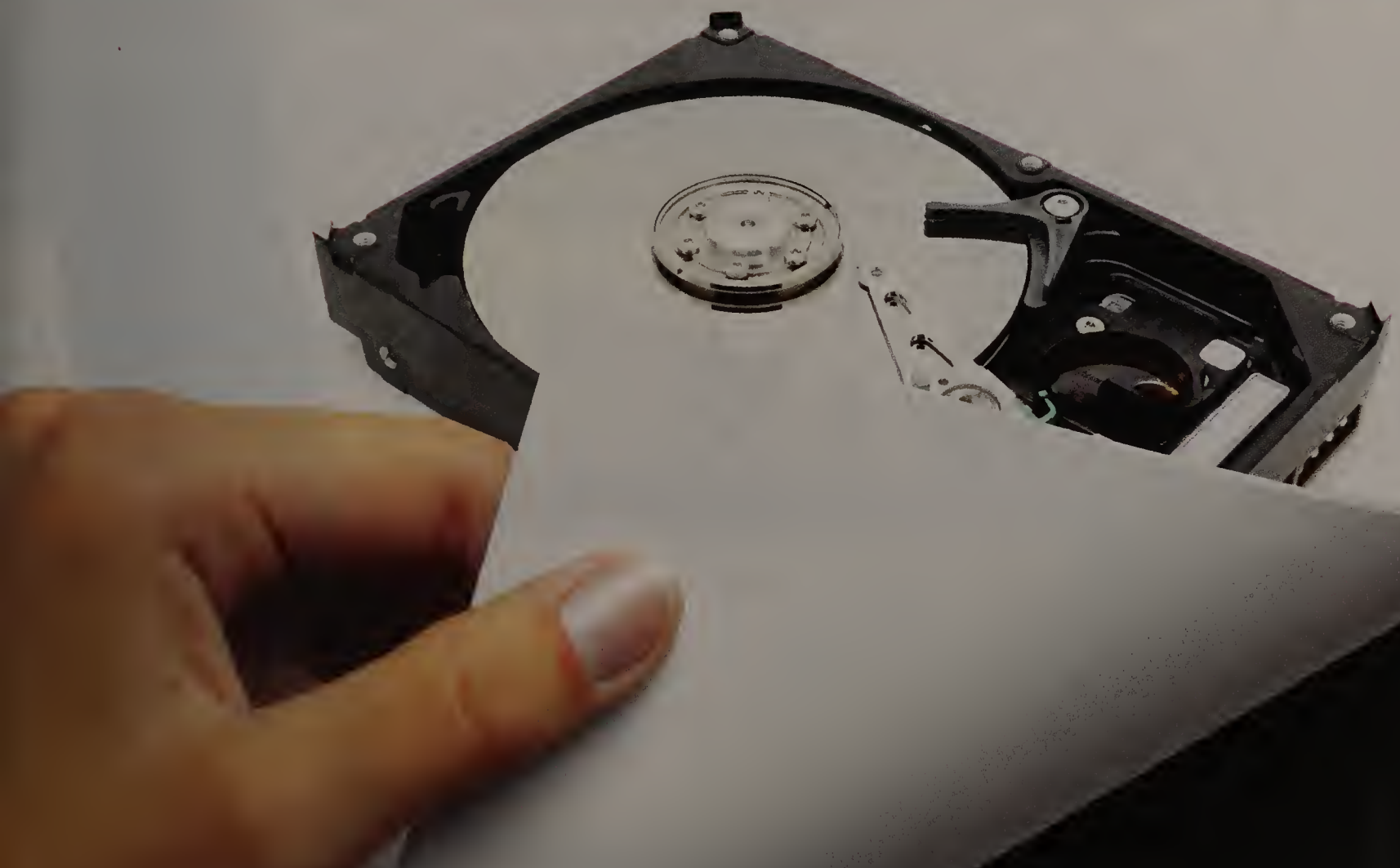
●●●●; $80; Logitech; www.logitech.com

iOS Devices: Current Lineup

PRODUCT	SPECS	RATING	PRICE[1]	DISPLAY	PERFORMANCE	FIND CODE[2]
iPad[3] 	16GB	Wi-Fi, ●●●●½; 4G, ●●●●½	Wi-Fi, $499; 4G, $629	9.7-inch color (Retina)	Up to 10 hours on Wi-Fi; up to 9 hours on 4G	7696 Wi-Fi 7699 4G
	32GB	Wi-Fi, ●●●●½; 4G, ●●●●½	Wi-Fi, $599; 4G, $729	9.7-inch color (Retina)	Up to 10 hours on Wi-Fi; up to 9 hours on 4G	7697 Wi-Fi 7700 4G
	64GB	Wi-Fi, ●●●●½; 4G, ●●●●½	Wi-Fi, $699; 4G, $829	9.7-inch color (Retina)	Up to 10 hours on Wi-Fi; up to 9 hours on 4G	7698 Wi-Fi 7701 4G
	16GB (iPad 2)	Wi-Fi, ●●●●½; 3G, ●●●●½	Wi-Fi, $399; 3G, $529	9.7-inch color	Up to 10 hours on Wi-Fi; up to 9 hours on 3G	7030 Wi-Fi 7031 3G
iPhone 3GS, 4, and 4S 	8GB 3GS[4]	●●●●½	free	3.5-inch color	9 hours of Wi-Fi Internet; 5 hours of 3G talk time	62SS
	8GB 4[5]	●●●●	$99	3.5-inch color (Retina)	10 hours of Wi-Fi Internet; 7 hours of 3G talk time	7S16 GSM 7S20 CDMA
	16GB 4S[5]	●●●●	$199	3.5-inch color (Retina)	9 hours of Wi-Fi Internet; 8 hours of 3G talk time	7S17
	32GB 4S[5]	●●●●	$299	3.5-inch color (Retina)	9 hours of Wi-Fi Internet; 8 hours of 3G talk time	7S18
	64GB 4S[5]	●●●●	$399	3.5-inch color (Retina)	9 hours of Wi-Fi Internet; 8 hours of 3G talk time	7S19
iPod Touch	8GB	●●●●½	$199	3.5-inch color (Retina)	40 hours of music playback; 7 hours of video playback	6S53
	32GB	●●●●½	$299	3.5-inch color (Retina)	40 hours of music playback; 7 hours of video playback	6S54
	64GB	●●●●½	$399	3.5-inch color (Retina)	40 hours of music playback; 7 hours of video playback	6SSS

[1] All prices are Apple's prices. [2] In a browser's address field, typing in a find code after *macworld.com/* takes you to a product's review or overview. [3] There are separate Wi-Fi + 4G iPad models for AT&T's network and for Verizon's. [4] This phone is available only with an AT&T plan. [5] These models are available with an AT&T, Sprint, or Verizon plan.

HDD performance reaches all-time high, 600 IOPS and 200MB/s!



It's time to turn the page on storage performance.

Waiting for the right time to own an SSD? For performance to peak? For price per gigabyte to approach hard drives? The time is now. Four years in the making, the OCZ Vertex 4 Solid State Drive Series redefines the modern day computing experience with enhanced performance and endurance and unleashes ultimate productivity, gaming, and multimedia applications like no other storage solution.

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OS X MOUNTAIN LION

WE REVIEW THE LATEST MAC OS. PLUS: UP-CLOSE LOOKS AT WHAT'S NEW.

A little over a year ago, Apple released OS X Lion (10.7). Since then, the company has also released one new generation of its operating system for tablets and phones (iOS 5) and previewed the next (iOS 6), and expanded its online syncing service, iCloud. Now, with the release of OS X Mountain Lion (10.8), it's bringing those three product lines closer together than ever.

Mountain Lion extends and improves features introduced in Lion. It inherits ideas and even apps from iOS. And it integrates tightly with iCloud. So while the changes in Mountain Lion might not seem dramatic, this update is still a significant step in the evolution of the Mac OS.

Here's our take on the new version of OS X, along with a deeper look at its new features.

PHOTOGRAPH BY PETER BELANGER

INSIDE:

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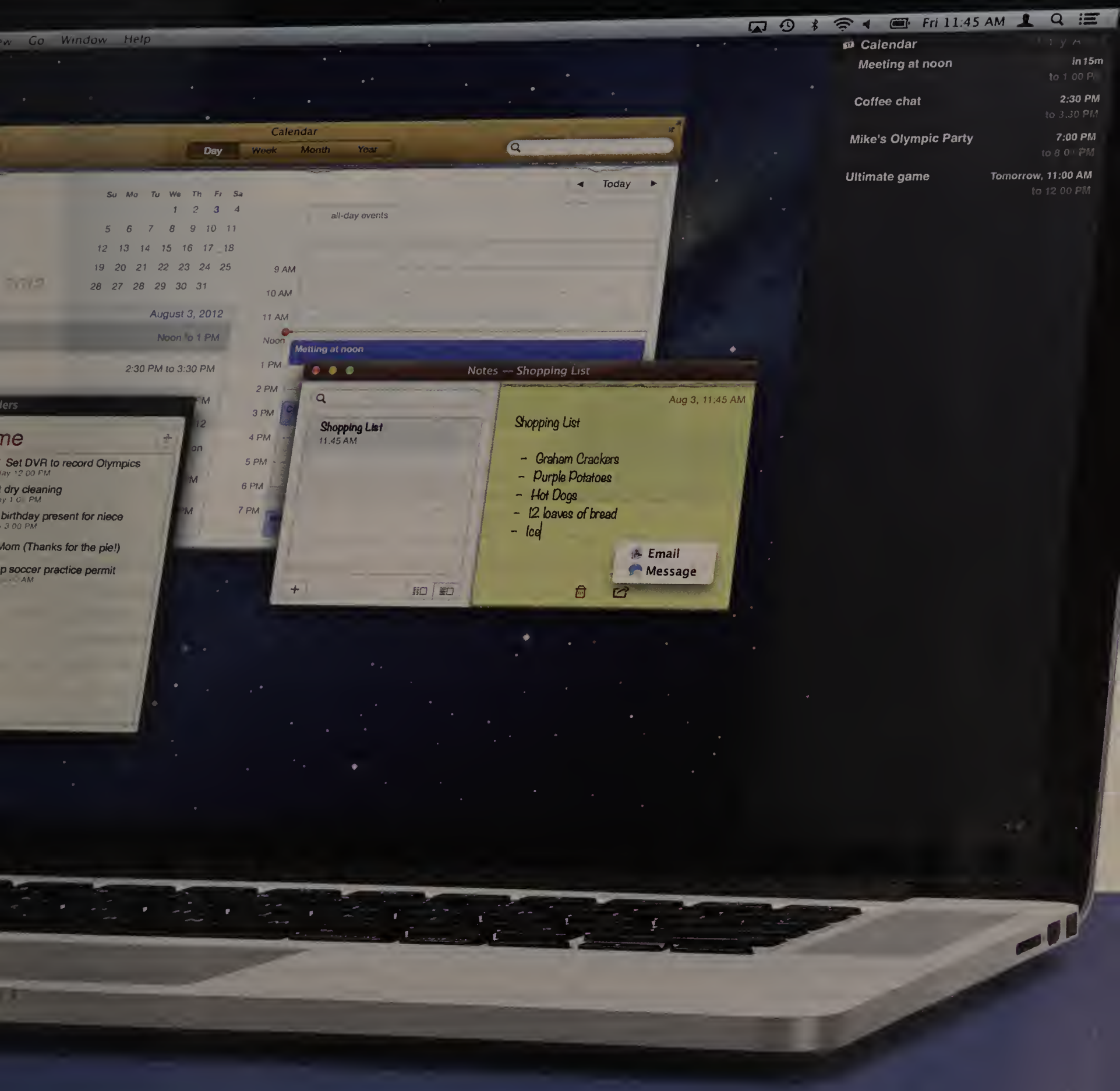

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AND THAT'S NOT ALL... PAGE 66

REVIEW: OS X Mountain Lion

BY JASON SNELL

ONE YEAR AND one week since it released OS X Lion (aka OS X 10.7), Apple has released its successor, OS X Mountain Lion.

Like Lion, Mountain Lion adds numerous features that will be familiar to iOS users. This OS X release continues Apple's strategy of bringing iOS features "back to the Mac." Those features include iMessage, Reminders, Notes, Notification Center, Twitter integration, Game Center, and AirPlay Mirroring. At the same time, other features that are making their debut in Mountain Lion will find their way into iOS 6 this fall.

As the first OS X release since the debut of iCloud, Mountain Lion integrates tightly with Apple's cloud-data service. It also provides new security options that allow you to specify the kinds of apps you feel comfortable installing. Mountain Lion offers systemwide sharing tools that connect easily to social networking and media services. And it enables some recent MacBooks to keep working, even when they're asleep.

At $20, Mountain Lion is Apple's cheapest OS X upgrade since the company released version 10.1 for free 11 years ago. Like Lion, it's available only via a Mac App Store download. The combination of the low price and the easy download will likely make Mountain Lion the most quickly adopted OS X upgrade of all time. Given how solid a release it is, that's good.

OS X 10.8
★★★★½; $20; Apple; www.apple.com

iCloud

OS X LION was finished before iCloud appeared, which prevented Apple from deeply integrating the two. But Mountain Lion is all about integration.

That integration is apparent when you first set up Mountain Lion: The Setup Assistant asks for your iCloud ID. Once you provide that, Mountain Lion syncs your email accounts, contacts, calendars, notes, reminders, and the like via iCloud.

This system won't sync the files from an old Mac (you'll need Migration Assistant for that), but imagine a future in which most of your apps store their documents in iCloud. In that world, logging in to iCloud from a new Mac will be like restoring an iOS device from iCloud: All that data will be exactly where it should be. Mountain Lion is a step in that direction.

Since last fall, Apple's iWork apps for iOS have supported Documents in the Cloud, which stores documents on Apple's Internet servers; you can then access them from any iOS device. Now the Mac versions of those apps provide the same support; TextEdit and Preview do too. (Other developers are free to follow suit, as long as their apps are sold through the Mac App Store.)

Another new feature replaces OS X's traditional Open dialog box with one that has two options: iCloud and On My Mac. If you select On My Mac, you see the traditional Mac file picker. But if you choose the iCloud option, you see something quite different: a view of all the documents in that application that are stored in iCloud. By default, this icon-based view shows icons sorted with the recently

modified files at the top, though you can also switch to a list view and sort by name, date, or size.

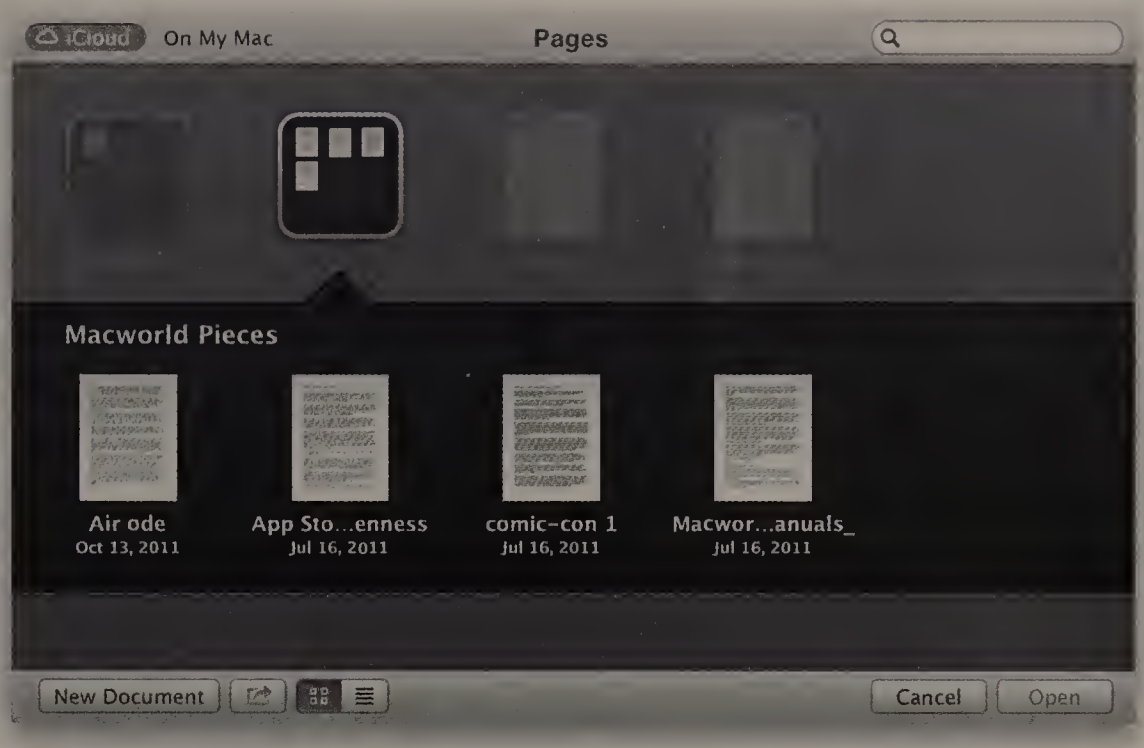
In either view, you can drag one file on top of another to make a new folder. If you want to move a file from the Finder into iCloud, you just drag it into the iCloud window; if you want to move a file from iCloud to your Mac, you just drag it out.

When I first opened the updated Pages in Mountain Lion, I saw something I didn't expect to see: a collection of documents that I had created over the past year on my iPad using Pages. I was able to open the files and edit them, and the edits showed up almost immediately on my iPad, too. When the process works, it's almost magical.

Similarly, when you create a document in one of these apps and try to save it, the Save dialog box is set to iCloud by default. You can switch over to your Mac's hard drive if you want, but typical users will most likely just save their file to iCloud and not worry about navigating their hard drive's file hierarchy.

You might blanch at the idea of not using the traditional file system, but Apple believes most computer users won't; having seen friends and relatives struggle with the Finder, I'm inclined to agree. Between Launchpad and Documents in the Cloud, many novice Mac users will find little use for the venerable Mac file manager. Experienced users can still save files on their hard drives if they want; it's easy to move files from iCloud to your Mac and back.

Even as an experienced user, I see the appeal of Documents in the Cloud: It shows only one app's files, with the most recently modified ones at the top, making them easy to find. It's not so different from what I tend to do anyway: Launch the app and go to the File ▸ Open Recent submenu.



DOCUMENTS IN THE CLOUD You can use folders to organize documents stored in iCloud, but you can't create folders within folders, which limits your organizational options.

Documents in the Cloud isn't perfect. You can open some file types—text files, for example—with a lot of different apps, yet Documents in the Cloud doesn't let you associate a single data file with more than one app. So you can't, say, insert an image into a Pages or Keynote document via iCloud without opening Preview, grabbing the file from its iCloud window, and dragging it into the app. That's less than ideal.

And while iCloud is free, that's only for the first 5GB of data. My iPhone and iPad backups already nudge me close to the limit; adding a bunch of giant Keynote presentations will probably push me over the edge.

Still, it's now easier to see how iCloud will benefit users of Apple products, by tying those products more closely together and eliminating the need to fuss with files.

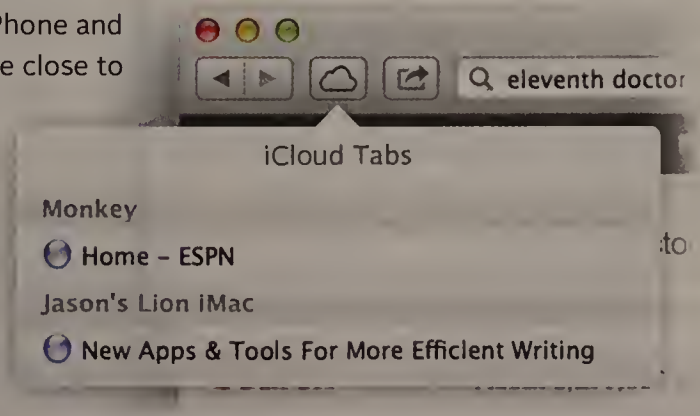
(To read more about iCloud, turn to page 46.)

Instead of the traditional Open dialog box, there's a new one with two options: iCloud and On My Mac.

iOS Apps

WITH MOUNTAIN LION, Apple continues to make OS X and iOS more similar in look, feel, and even nomenclature. So OS X's Address Book app is now Contacts, and iCal is now Calendar. More notably, there are some new Mac apps built specifically to match—and sync with—iOS counterparts.

The new Reminders app looks more or less identical to the iOS version, and It provides the same basic to-do list functionality as its iOS counterpart. You can, for example, set location-based reminders on your Mac that will trigger alerts on



PORTABLE BROWSING With iCloud Tabs, you can see a list of the webpages you have open on your other devices.

GAME CENTER It's nice to see what your friends are playing. But it's even nicer for Mac game developers, who can take advantage of buddy lists, rankings, and other features.

your iPhone when you enter or exit a given place. Reminders won't replace hard-core task-management apps, but it's fine for people who want a basic set of checklists synced across all their devices.

The Notes app will also be familiar to iPhone and iPad users. It's far more than a replacement for Stickies (which is still there in the Applications folder). Notes supports rich text, with hyperlinks, various fonts, bulleted lists, images, and even file attachments. It also syncs with the Notes apps on iOS (though, oddly, it doesn't use iCloud to do so). It works well enough that I've started using Notes on my iPhone.

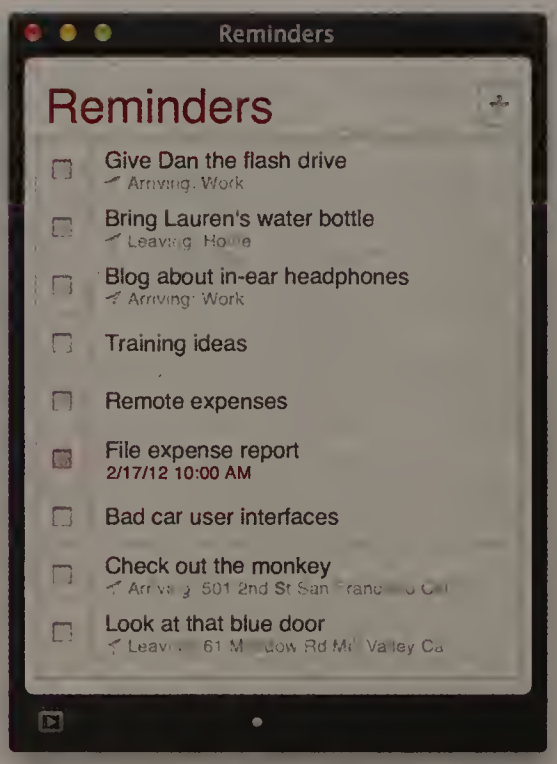
There's also a new Game Center app, which finally ports Apple's buddy system for games from iOS. Yes, you can log in, add buddies, and see what games your friends are playing from the app. But the app isn't as important as the fact that Game Center is now available to Mac game developers. By taking advantage of Game Center, developers get access to buddy lists, a ranking system, in-app voice chat, head-to-head gameplay, and gameplay across Apple platforms. Expect a flood of Mac games that are versions of games previously seen on iOS.

(To read more about Reminders, turn to page 58. And for more on Notes, see page 66.)

Messages

IN 2011, APPLE introduced iMessage, a messaging system that lets iOS devices communicate directly with one another. (The actual app on the iPhone is called Messages.) Unlike SMS text messaging, iMessage transfers data via the Internet, so users incur no text charges.

Mountain Lion adds support for iMessage in the form of the new Messages app.



Like Messages on the iPhone, Messages for the Mac lets you hold chats with several participants at once. Like the iOS version, it can let people know when you've read their messages and when you're typing a reply. An integrated video-chat button allows you to hold video chats over traditional instant-messaging systems (as iChat has always done) or by launching FaceTime.

It's nice to have access to iMessage from my Mac. Before, when I'd receive a message on my iPhone while working on my Mac, I'd be frustrated that I had to type out a response on my iPhone keyboard instead of the full keyboard I was already using. It's now easy to send a quick message to my wife when I'm at work—all I have to do is type her name in a new Messages window, and then type a message.

This isn't to say there aren't frustrating things about Messages. Sure, it's great that using iMessage means you have a record of your conversations on all of your devices, and it makes it easy to continue a conversation even if you have to shut down your Mac and head for the bus stop. But every time I receive a message via iMessage on my Mac, my iPad and iPhone also chime or vibrate. There should be a way for Apple to detect which device I'm actively using and to direct iMessage conversations (and alerts) there.

Messages has another odd side effect: When I opened my Mac up after I had been having an iMessage conversation on my iPhone, Messages launched and opened a new chat window displaying the old messages from that conversation. It's nice to have a transcript of that chat on my Mac, but it's an inelegant way to do it. I also found that sometimes, when I'd logged out of all my services, I couldn't log back in until I deactivated and then reactivated the account.

The bottom line is that I love the idea of iMessage, but Apple needs to make the cross-device experience a little less obtrusive. (To learn more about Messages, turn to page 60.)

BASIC TASK MANAGEMENT Reminders won't put OmniFocus out of business, but it's fine for maintaining basic to-do lists.

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Notifications

FOR YEARS, MAC app developers built their own alert systems—think of those reminder pop-ups in iCal, for example. With Mountain Lion, OS X gains a system-wide notification feature that's available to every developer.

Notifications appear in the top right corner of the screen in a small bubble. There are two kinds: Banners remain there for five seconds and then slide off the screen (unless you swipe them away first or click them to open the relevant app); alerts, on the other hand, remain on screen until you click the Show or Close (or, in some cases, Snooze) button.

You can see all of your notifications in the Notification Center, a narrow list that lives just to the right side of your screen. You can reveal it either by clicking on the Notification Center icon at the far right of the menu bar, or by swiping with two fingers starting at the far right edge of the trackpad.

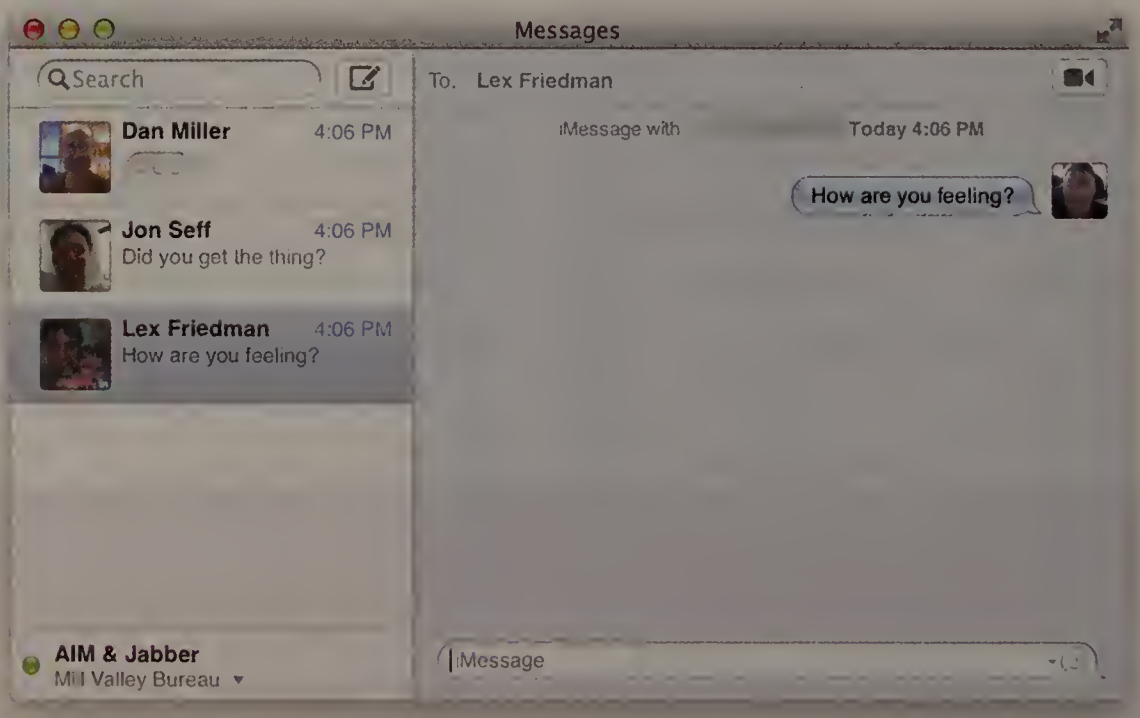
Not all notifications come from apps: Because Mountain Lion integrates support for Twitter and (coming this fall) Facebook, Notification Center can display notifications from both services—including direct messages and/or mentions on Twitter, and a whole host of optional items (events, application and friend requests, comments, wall posts, messages, and so on) on Facebook.

You control the kinds of alerts you see and the form they take in a new Notifications pane in System Preferences—analogous to the Notifications submenu in iOS's Settings app. You can also squelch notifications when they're not appropriate: If you scroll up in the Notification Center list, you see a Show Alerts And Banners option. Flip the switch to Off, and it mutes notifications (but only until tomorrow). Notification Center also automatically senses when your Mac is connected to an external display. If the OS detects that the Mac is hooked up to a TV or projector, it won't show any notifications.

I appreciate being alerted when someone DMs me on Twitter or when I receive an important email.

Notification Center is the sort of feature that needed to be part of the operating system for the sake of consistency, and Apple has done a good job of implementing it. I appreciate being alerted when someone sends me a direct message (DM) on Twitter or when I've received an important email, and the settings in the Notification Center control panel are granular enough to allow me to suppress any notifications that get in my way.

(To read more about Notifications, turn to page 44.)



Gatekeeper

EVER SINCE APPLE introduced the Mac App Store, people have speculated that eventually the Mac—like iOS—would run only software sold via the store. I never thought that was a serious possibility; Mountain Lion seems to prove me right.

The new Gatekeeper feature adds an intermediate level of protection for downloading applications. Previously, your choices were to permit only fully approved App Store apps or to allow any random files downloaded from unknown sources. Mountain Lion by default will launch newly downloaded apps from the Mac App Store, as well as any apps written by "identified developers," without complaint.

Identified developers are members of Apple's Mac developer program who have obtained a certificate that's linked to their identity and which they use to cryptographically sign their apps. That certificate means only that Apple knows who the developer is; but it enables Apple to revoke the developer's license if need be. Cryptographic signing also prevents tampering with legitimate apps after the fact.

Most people will only run into Gatekeeper when they're downloading an app that hasn't been updated with a developer signature. You can turn off Gatekeeper altogether, of course, but you can also choose to open unidentified apps manually: Just Control-click on the app in the Finder and choose Open; Gatekeeper won't stop you.

Gatekeeper does not scan your Mac for malware, and it works only the first time that you try to open an app.

Gatekeeper is not the only security addition

MESSAGES The big difference between iChat and Messages is the latter's support for iMessage, but it still supports AIM and Jabber.

If you love your ceiling fan, ignore this ad.

You obsessed over every bit of furniture, floor option and window treatment. But when it came to the ceiling fan, you just went with . . ."whatever."

Haiku® takes "whatever" out of the equation, exceeding expectations you didn't know you had.

In a class of its own

Haiku looks different because it is different, with revolutionary technology hiding inside the seamless fit and finish at its center. The sleek look conceals Sensorless Drive Technology™ that delivers an 80% improvement in efficiency over conventional ceiling fan motors. Confirmed by ENERGY STAR® as the world's most efficient ceiling fan, Haiku also won the prestigious international red dot award, a prominent seal indicating quality design.

Don't call them blades

Haiku's patent-pending Thin Sheet™ airfoils span 60 inches and feature an aerodynamic profile, resulting in smooth, silent airflow (in fact, it's also the quietest fan in the world—at all speeds). Haiku airfoils are made of Moso bamboo, a sustainable resource with the tensile strength of steel that renews itself every five years. After multiple quality inspections and a seven-pass, solvent-free finish to highlight the natural grain, five thin sheets of bamboo are bonded in a hot forming press, then cut and sanded by hand to create airfoils that meet the strictest quality standards. (Actually, there are only two companies in the world that could create our unique bamboo airfoils—one in Germany, the other in Michigan. We chose the U.S.)

Each airfoil is then individually fitted as technicians confirm the perfect balance of every fan.

Stealth operation

Haiku's sophisticated control features include Sleep, Timer, Reverse, and variable speed settings, including the exclusive Whoosh™ mode to simulate natural airflow. This is the one fan you'll dare turn all the way to high—its unique core and 13-step hand-balancing process mean it will never rattle or wobble. Ever.

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to Mountain Lion. The Security & Privacy preference pane's Privacy tab is now more granular. In addition to giving you control over the use of location-based data and the sending of diagnostic information to Apple, it enables you to control access to Contacts, Twitter, and Facebook.

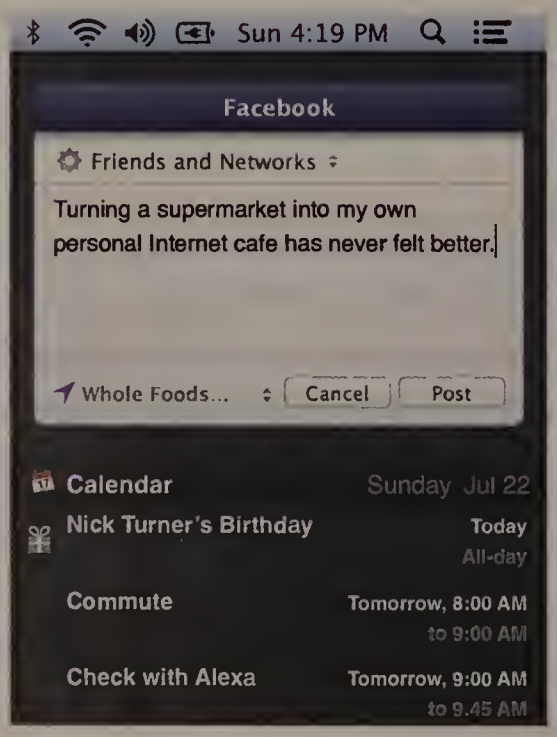
(For more on Gatekeeper and security in general, turn to page 52.)

IS IT SAFE? Gatekeeper lets you filter apps you want to open by source.

Sharing

IN AN ATTEMPT to make it easier to share files, photos, and the like on your Mac with other people, Apple has added a Share button—much like iOS's—to most of its apps; it has also given third-party app developers access to those sharing tools. When you click on the familiar Share button in an app, a pop-up menu offers several ways to share.

In Safari, for example, the Share button lets you share a link. On the Share Sheet, you can compose your own text, add a bookmark, send a link via Messages, add the page to Reading List, or send the story via email. (Choose that last option, and you can send a link, the page's HTML, or a stripped-down view of the page in the style of Safari's Reader feature.)



SHARING EVERYWHERE In addition to showing alerts, Notification Center also has tools for posting to social networks.

To share via Twitter or Facebook, add your account information in the Mail, Contacts & Calendars preference pane. Once that's done, it's easy to quickly share items from just about anywhere in OS X. I was able to post an image to Twitter and Flickr from within Preview. I could even transfer it to a nearby Mac via Apple's AirDrop file-transfer feature, all without leaving my Preview window.

Integration with social networks goes further than that. Mountain Lion can sync with your Facebook contacts list so that all your Facebook friends appear in Contacts. If the denizens of your Contacts list are also your Facebook friends, Mountain Lion will do its best to avoid creating duplicate entries. (It duplicated a few of my friends when I tried this, but merging them back into one record wasn't too hard using the Merge Selected Cards command in Contacts.) Mountain Lion can also optionally update the pictures attached to each of your contacts based on those contacts' public Facebook profiles, even if they're not Facebook friends, and it can do likewise with Twitter avatars.

Apple has up until now resisted deep integration with services like Twitter and Facebook.

A few years ago I tested a Palm WebOS smartphone and was impressed by its attempt to integrate my social networks and address book contents into a unified collection of contacts. Apple has up until now resisted deep integration with services like Twitter and Facebook. The good news is that with Mountain Lion, Twitter is fully integrated into the OS, and this fall Facebook will finally also be integrated. Users of these services will appreciate the convenience. (And if you don't use the services, you won't miss anything.)

(For more about Mountain Lion's sharing services, turn to page 48.)

Dictation

MOUNTAIN LION'S DICTATION engine appears to be identical to the one found in iOS. Just remember: It isn't Siri.

You can use Mountain Lion's Dictation tool nearly anywhere you can enter text; it doesn't require any app updates. By default, you initiate a dictation session by tapping its function key twice; you can customize that shortcut in the Dictation And Speech preference pane. Then you just say what you want to say; once you're done, Dictation renders your utterances (usually accurately) as text. The only limitation is that Dictation requires a live Internet connection.

Of course, there are better speech-to-text options available commercially. Programs such as Nuance's $200 Dragon Dictate (●●●●; macworld.com/a/1162299) work without an Internet connection and offer voice training and customizability that Mountain Lion's dictation feature can't match. But you may not need that level of customizability.

I've never used dictation products for very long, but I do use iOS dictation occasionally. I look forward to trying the same feature on my Mac.

(To read more about Dictation, turn to page 50.)

Blackmagicdesign

Introducing the world's most exciting video capture and playback for Final Cut Pro X!

Intensity Shuttle with Thunderbolt™ technology is the world's most exciting video capture and playback solution for Final Cut Pro X! Get full resolution HDMI, Component YUV, S-Video and NTSC/PAL video on your Mac using super fast Thunderbolt technology! Capture incredible 10-bit broadcast quality video in SD or HD for editing plus live playback from Final Cut Pro X to big screen HDTVs and projectors for the highest quality monitoring!

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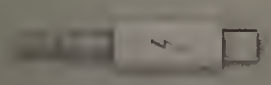

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AirPlay Mirroring

FOR A WHILE now, Macs have been able to play back iTunes audio and video to Apple TVs (and audio to AirPort Express base stations). With Mountain Lion, you can now mirror the contents of your Mac's display on any video device connected to an Apple TV (as long as it's the small black version).

When a 2011-vintage or later Mac running Mountain Lion senses the presence of an Apple TV on the local network, an AirPlay icon appears in the menu bar. Click it and select that Apple TV, and your desktop is duplicated on the TV to which it's connected. By default, OS X scales down the contents of your screen to fit on the TV, but you can tell it to scale the image to match the dimensions of the HDTV.

There's one other nice AirPlay addition in Mountain Lion: Now all of the AirPlay devices your Mac can see appear as options in the Output tab of the Sound preference pane. If you want to channel all your system audio through an Apple TV or AirPort Express nearby, it's simple and works exactly as you'd expect.

(To read more about AirPlay Mirroring, turn to page 54.)

Power Nap

WHEN AN IOS device is asleep, it's still doing stuff—checking your mail, making alert sounds, and even backing up your system. That's why you can wake up an iPad and get an up-to-date count of messages in your inbox. With Mountain Lion, Apple is introducing a version of this iOS feature to the Mac, called Power Nap.

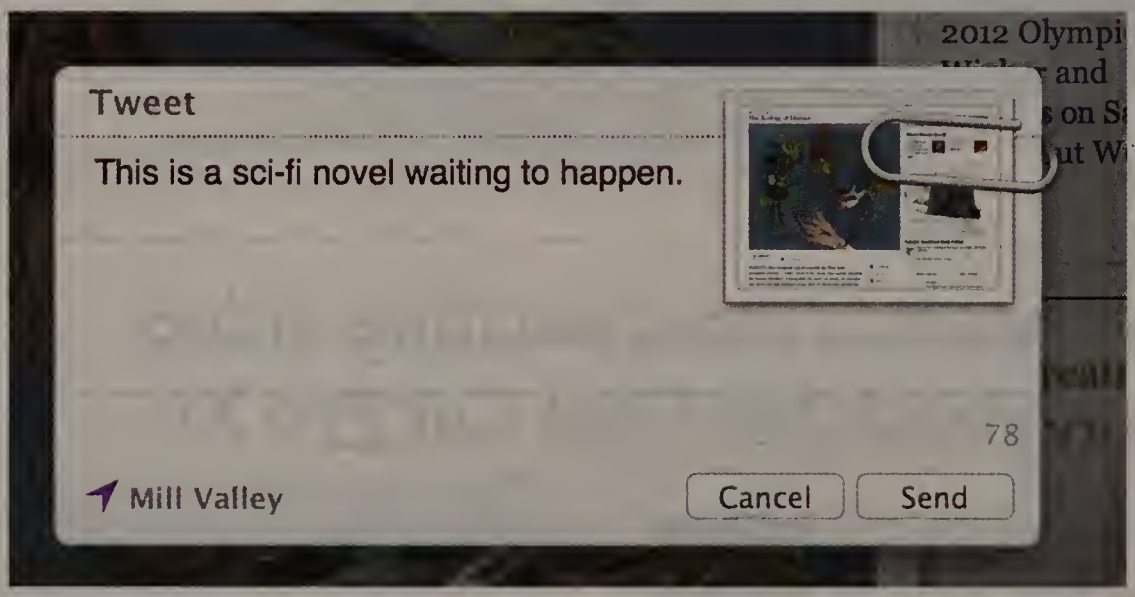
First, the restrictions: While I'd bet most future Macs will support Power Nap, right now it works on only a handful of systems. When Apple released Mountain Lion, Power Nap worked only on mid-2011 or 2012-vintage MacBook Airs or the new MacBook Pro with the Retina display.

By default, Power Nap is turned on when your laptop is connected to a power adapter and turned off when it's running on the battery; but you can turn Power Nap off completely or turn it on for both scenarios in the Energy Saver preference pane.

Power Nap works by periodically waking up a MacBook even when it's closed. But this isn't the usual wakeful state. Fans don't spin and the screen doesn't come on. And since Power Nap works only on systems that use flash storage instead of spinning hard drives, disk access is silent, too. From the outside, you'd never know your MacBook was awake.

When in this dark-wake state, your MacBook will (once an hour, if it's connected to a power adapter or has more than 30 percent of battery life remaining) check your mail; update calendars, reminders, notes, and Photo Stream; and sync contacts and Documents in the Cloud. If you have Find My Mac on, it'll also phone home with its current location.

A few other Power Nap features work only if your MacBook is plugged into a power adapter. In that case, your laptop



TWEETING IS SHARING Thanks to its deep integration with social networks like Twitter, Mountain Lion makes it simple to share files and more.

Big in China

APPLE HAS HAD huge success in China lately, most particularly with the iPhone. With Mountain Lion, the company is trying to improve support for users who write in Chinese.

On the text-input side, Mountain Lion offers better suggestions and corrections via a dynamically updated dictionary. Apparently Chinese users often insert English words in Chinese text, so Mountain Lion allows the mixing of Pinyin and English without making you switch between keyboard layouts. Apple says Mountain Lion also doubles the number of characters recognized by trackpad-based handwriting recognition.

On the Internet services side, Mountain Lion offers support for Chinese alternatives to several worldwide services. Search engine Baidu is now an option in Safari. Chinese microblogging service Sina Weibo is supported in Share Sheets, just as Twitter already is. In addition to supporting sharing with Vimeo and Flickr, Mountain Lion supports sharing to the Chinese video-sharing sites Youku and Tudou. It also supports Mail, Contacts, and Calendar syncing for Chinese service providers QQ, 126, and 163.

According to Apple, most Mac users won't see these features. Mountain Lion will determine, based on your location and language settings—if, say, you activate a Chinese keyboard layout—whether you've "expressed an interest" in Chinese features. If it determines that you have, the support for Chinese service providers surfaces. As someone who doesn't speak Chinese, I couldn't test any of these features.—JASON SNELL

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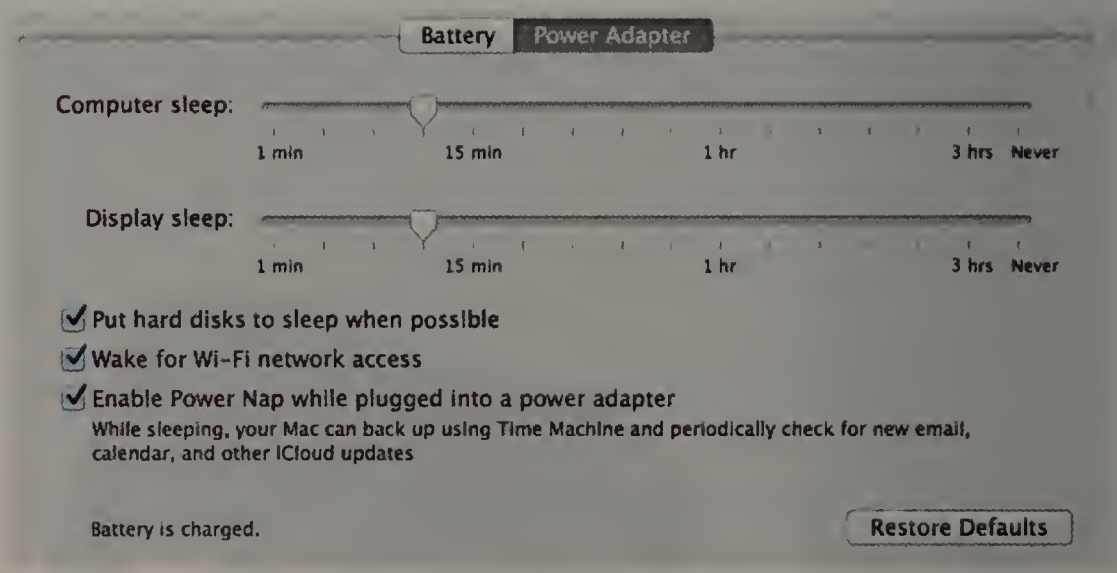
will also run Time Machine backups and download software updates (assuming you've set it to do so in the background).

The next step for Apple would be to give third-party apps access to Power Nap. Users of online backup services, for example, would love that. But Apple would have to be judicious about it; you don't want to wake up to find that your laptop's battery hasn't recharged overnight.



WORKING IN YOUR SLEEP If you have a MacBook of relatively recent vintage, you can enable Power Nap in the Energy Saver preference pane.

Safari

WHEN APPLE FIRST announced Mountain Lion in February, it didn't make a big deal about changes to Safari. But several nice additions in Safari do in fact make it a much better browser.

The biggest addition is actually a subtraction: The search box next to the address bar has vanished. Instead, as in Google Chrome, the address bar is also your search field. If you know an address, you can type it there, but if you don't, you can enter your search terms in that same field, and Safari performs a search using your preferred search engine.

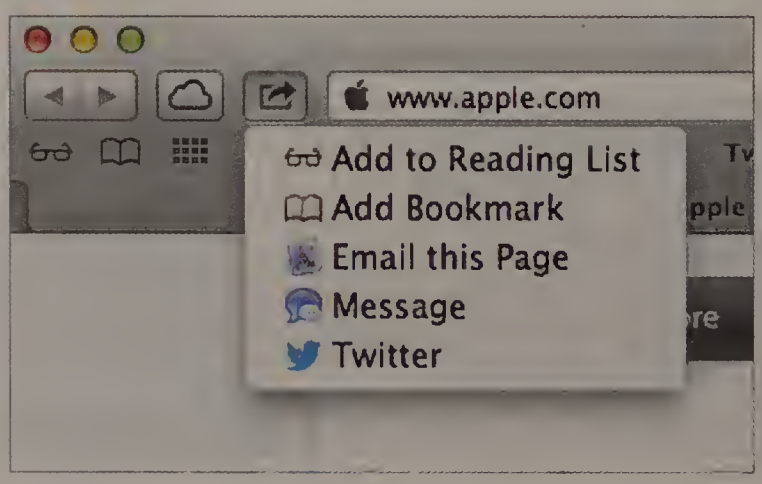
Another new Safari feature I like is iCloud Tabs. Click its icon on the toolbar, and you get a list of all the webpages you've loaded across all your devices. This feature will become much more useful with the release of iOS 6 this fall. Then you'll be able to start reading on your Mac and pick up where you left off on your iPad.

The new Tab view is cool, too. If you have more than one tab open in Safari and you pinch on your trackpad, Safari zooms out until you see the current page on a gray background. You can then swipe left or right and view the contents of all the other tabs. But while this view is pretty, I don't see how I'd ever use it. Clicking on tabs already works great: If I want to see a page in Safari, I click its tab. Pinching, then swiping, then clicking just doesn't seem efficient.

There are several more nice additions to Safari, too. As I mentioned earlier, a new Share button appears in the Safari toolbar. The Safari Reader button, now much larger, sits just to the right of the address bar, turning blue when a page is eligible for Reader. The Reading List feature now offers an offline mode, so you can save articles to read later even if you're not connected to the Internet at that time.

Although this update is generally a good one, webpages *seem* to load more slowly than they did before—although I don't think they actually do. They probably seem to because the blue progress bar creeps across the URL window more slowly, and the status bar no longer tells you what it's doing. When a page is slow to load, it's frustrating to have no indication about what's happening. Maybe other Safari users won't care, but I found it disconcerting.

(For more on the new Safari, turn to page 64.)



SHARING AND MORE Safari's Share button lets you share and save URLs.

Mail

I HAVE A tolerate-hate relationship with Mail. During the Snow Leopard era, I got so fed up with it that I switched to Gmail, but the improvements to Mail in Lion lured me back. Mail hasn't received a major upgrade in Mountain Lion, but its support for Notification Center meshes nicely with its one big new feature: VIPs.

It's logical that you'd want Mail to notify you when you get new mail. But if you get a large volume of mail, that's a lot of alerts. In Mail's Preferences window, you can specify when you want to be notified: every time a message comes in, when a message comes to your inbox, when you get a message from someone in your Contacts list, or when you get a message from a VIP.

To mark someone as a VIP, you just open a message he or she has sent you and move the cursor over that name. To the left, you'll see the faint outline of a star. Click it and it darkens slightly. That's it. That person is now Very Important. Little stars show up next to his or her messages in your mailbox.

Simply limiting notifications to people in your Contacts list would have been a pretty good feature, but this is even better. The VIP system makes it easy to be alerted when you get emails from the people you care about most. I set Mail to

The VIP system makes it easy to be alerted when you get emails from the people you care about most.

notify me only when I get VIP messages, and after a few days of granting little gray stars to people, the system really started to work well.

There's even a VIPs filter in the toolbar, so I can quickly see just mail from all my VIPs or even one particular person. This fall, with the release of iOS 6, this feature will also appear on iPhones and iPads—and presumably your VIPs will sync across your devices, which will be even more useful.

Now, even when I've got Mail in the background, I get a subtle reminder that someone important has sent me a message. Given the volume of messages I get in a day, and my tendency to forget to check it, that's invaluable.

This is not to say I don't still have issues with Mail. I find its search functionality occasionally brilliant and occasionally useless, and I can't figure out why. It sometimes takes forever to check for new mail, especially over slow connections. But, though it undoubtedly marks me as an old-school email user, I still prefer using an app to reading my mail in a Web browser. Mail suffices for that purpose, and with Mountain Lion, it just got a bit better.

(To read more about Mail, see "And That's Not All ..." on page 66.)

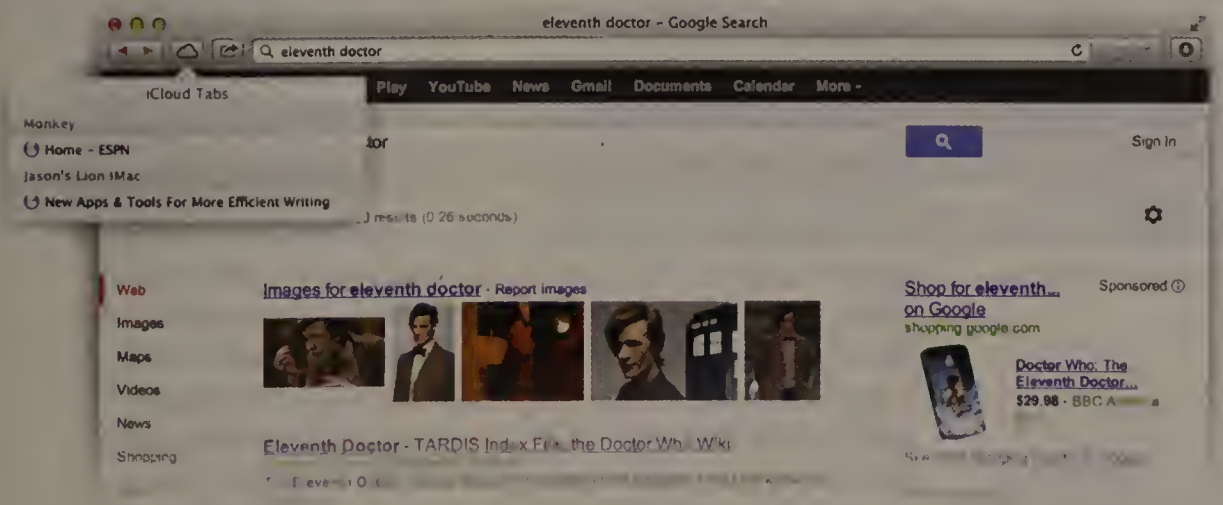
Macworld's Buying Advice

TRADITIONALLY, AT THE end of an operating-system review, you'd expect a discussion of whether the upgrade is really worth the money. But at $20 (and that's a one-time purchase that you can install on every Mac you own), the money isn't the issue.

Do you have an iPhone or iPad that you're going to upgrade to iOS 6 this fall? Or are you going to buy Apple's next iPhone when it comes out? Do you want to have access to the latest features Apple is rolling out across its entire product line? If any of that describes you, installing Mountain Lion is a no-brainer.

Mountain Lion is the next step after Lion. It's a rock-solid upgrade and it's Apple's current state of the art. If you're running Lion (or even if you're a holdout running Snow Leopard), I recommend hopping on board.

Jason Snell is the editorial director for IDG Consumer & SMB. He's written about every major OS X version since version 10.0.



WHAT'S OPEN WHERE Safari's iCloud Tabs button shows you what webpages are open on your other devices.

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WHAT'S NEW: **THE SYSTEM**

Notifications & Notification Center

iOS USERS WILL immediately recognize Mountain Lion's new notification system—it's more or less the same one that debuted on iOS 5 last year. The idea is certainly the same: Lots of things happen on your Mac—email, IMs, alarms, even Twitter updates. Notification Center gathers them in a single location, so you can see everything at a glance.

OPEN THE CENTER Clicking the three-line icon at the far right end of the menu bar opens up Notification Center; you can also do a two-finger swipe from the right edge of your trackpad.

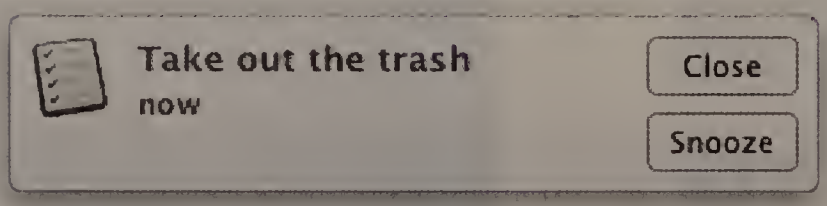
THE CENTER

Like its iOS counterpart, OS X's notification system actually has two parts. The first is Notification Center itself, a repository of all the notifications you've received. To activate it, simply click the notifications icon in the top right corner of the menu bar, or swipe with two fingers from the right edge of your trackpad toward the middle. This works even when you're in a full-screen app. To hide Notification Center again, reverse your swipe, or click the menu-bar icon a second time.

> Clicking a notification in Notification Center launches the app associated with that alert.

If you're more of a keyboard person, you can configure a key combination to toggle Notification Center in Keyboard ▶ Keyboard Shortcuts ▶ Mission Control.

Clicking a notification in Notification Center launches the app associated with that alert and, when possible, takes you to the data—the email message, calendar event, and so on—that triggered it. Unread notifications are marked with a blue dot, which disappears when you click that alert. You can mark all notifications for a given app as read by clicking the X icon in the top right corner. You can't clear individual messages, and some apps—such as Calendar—have notifications you can't dismiss.



ALERTS AND BANNERS You must manually dismiss alerts by clicking the Close button or the Snooze button.

Of course, you aren't always looking at Notification Center. The second part of Mountain Lion's notifications are alerts and banners, which the system triggers when an application wants to pass some information along to you.

Although alerts and banners both appear as small boxes in the top right corner of your screen, they differ in one way: Left alone, banners disappear a few seconds after they arrive. Alerts, on the other hand, require manual dismissal. Most alerts also have a Snooze button, which suspends the alert for another 15 minutes, while some have other options. The Mac App Store, for example, prompts you when updates for apps—or even for OS X itself—are available, giving you the option to view the details of those updates or click Update to install them right away.

NOTIFICATION PREFERENCES The new Notifications preference pane lets you specify which apps send alerts and how they do so.

AS YOU WISH

You can choose to have Notification Center sort your notifications two ways: manually or chronologically.

If you want to sort them manually, you drag apps and services in the left column of the Notifications preference pane into whatever order you desire. If you choose to organize them by time instead, you select that option from the pop-up menu at the bottom of the preference pane. Once you do so, notifications appear with the most recent ones at the top.

In this pane, you can opt to see 1, 5, 10, or 20 of the most recent items for each app; you can also specify whether the app should issue banners or alerts (or no notifications at all), whether an icon should appear with a badge that indicates unread messages, and whether a sound should play.

Some entries in that list on the left have additional options. For example, if you've entered your Twitter account in the Mail, Contacts & Calendar pane, you can choose to be notified about mentions, direct messages, both, or neither. And you can enable and disable the Sharing Widget, which lets you send posts from Twitter (and, later this year, from Facebook) from within Notification Center.

Some apps take a number of notifications settings into their own hands. Mail, for example, lets you specify (in the General pane of its Preferences menu) which kinds of messages should trigger alerts: new messages in your inbox, messages from contacts or VIPs, or messages in specific mailboxes. Other apps don't offer that much granularity. Calendar, for instance, lets you turn off shared calendar messages and/or invitations, but doesn't allow you to restrict notifications by calendar.

Safari can pass along notifications from specific websites. How those notifications appear is dictated by Safari's configuration in the Notifications preference pane. Within Safari's own Preferences, however, you can allow or deny notifications site by site. Only a few sites, such as Gmail and Facebook, support this now, but that number will likely increase.

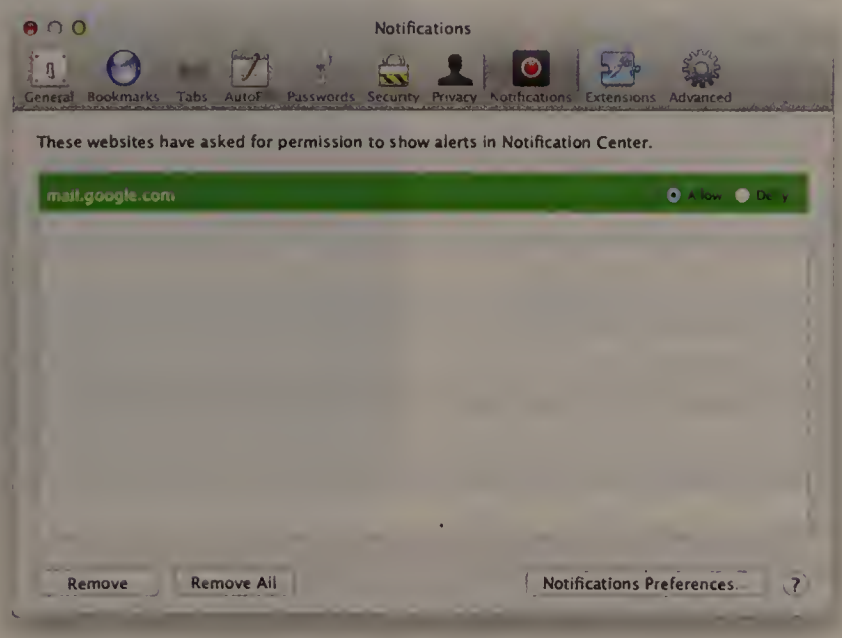
TURN THEM OFF

If you don't want an app to appear in Notification Center, you could just uncheck all the boxes and set the alert style to None. But it's easier to click the entry in the Notification pane's left column, and then drag it to the Not In Notification Center section; that way, you won't see any notifications whatsoever from that app.

On some occasions you want to silence all your alerts temporarily—when you're watching a movie on your computer, for example. To do so, scroll to the bottom of the Notification Center panel until you see the Show Alerts And Banners slider. When you switch the slider to off, alerts and banners are suppressed until you reactivate it or until the following day. (The latter condition is a safety measure, lest you miss notifications you want to see.) Mountain Lion even automatically disables alerts and banners when you're presenting in Keynote, or if your display is mirrored to an external monitor.

While Apple has updated its own apps to work with Notifications, third-party developers will have to update their programs to cooperate with the system—and Apple only grants Mac App Store apps full access to the features.

> When you switch the slider to off, alerts and banners are suppressed until you reactivate it.

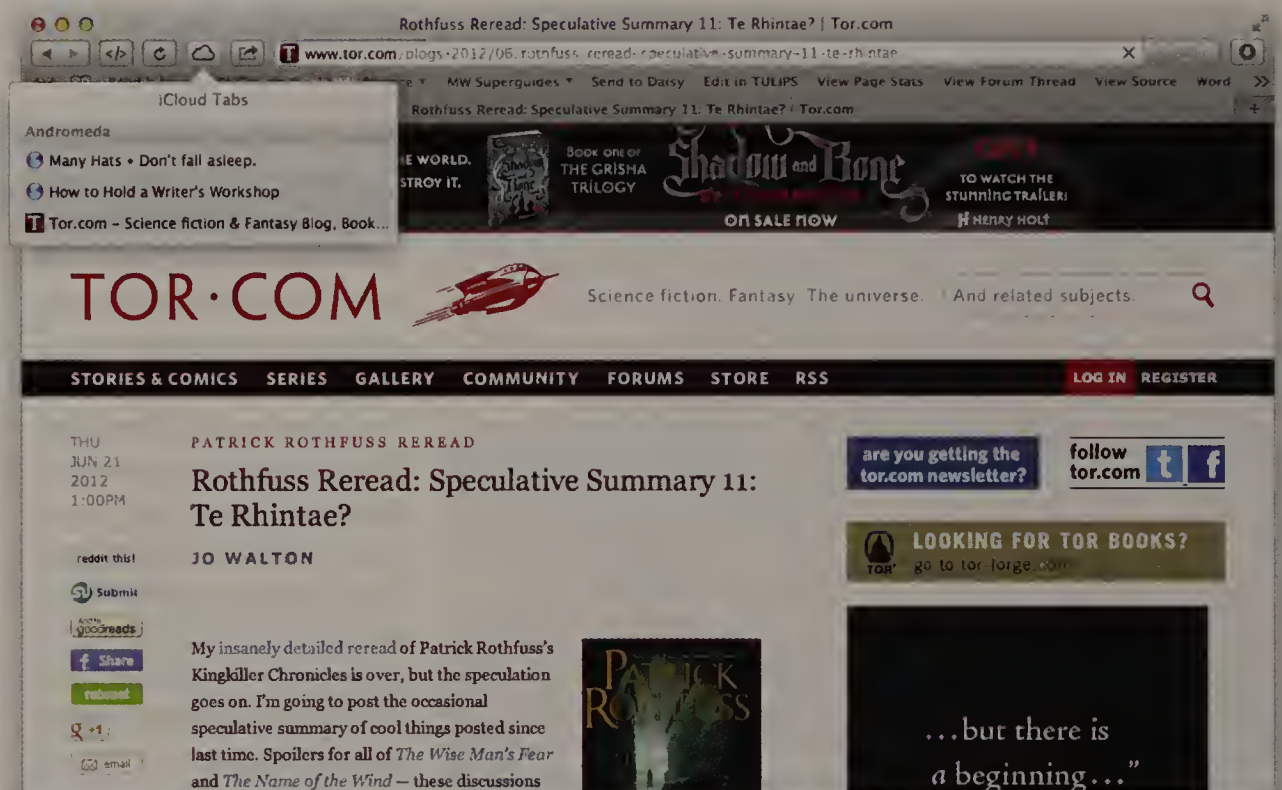


Fortunately, the developers of Growl—which itself has now transmuted into a Mac App Store app—have already pledged compatibility with Notification Center, so some support should be available for those non–App Store apps left by the wayside.—**DAN MOREN**

SAFARI ALERTS Some apps have their own notifications preferences. Safari, for example, lets you specify which sites can issue alerts.

WHAT'S NEW: THE SYSTEM

iCloud



WHEN APPLE INTRODUCED iCloud at the 2011 Worldwide Developers Conference, the company touted the online service's ability to seamlessly sync your contacts, calendars, reminders, notes, images, documents, and other data, along with a free mail account, remote access to other iCloud-enabled computers, and a locator for tracking down lost portable devices.

While iOS 5 took early and extensive advantage of iCloud on both the iPhone and iPad, OS X Lion did less with it: You could sync your mail, contacts, calendars, reminders, and notes, and send images to your iPhoto library via Photo Stream, but you couldn't use iCloud with your documents or program settings.

With Mountain Lion, however, Apple has added new features to iCloud and integrated those sorely missing from its desktop OS.

iCLOUD TABS Click the little cloud icon in Safari's toolbar, and you'll see a list of the browser tabs that you have open on other devices.

DOCUMENTS IN THE CLOUD

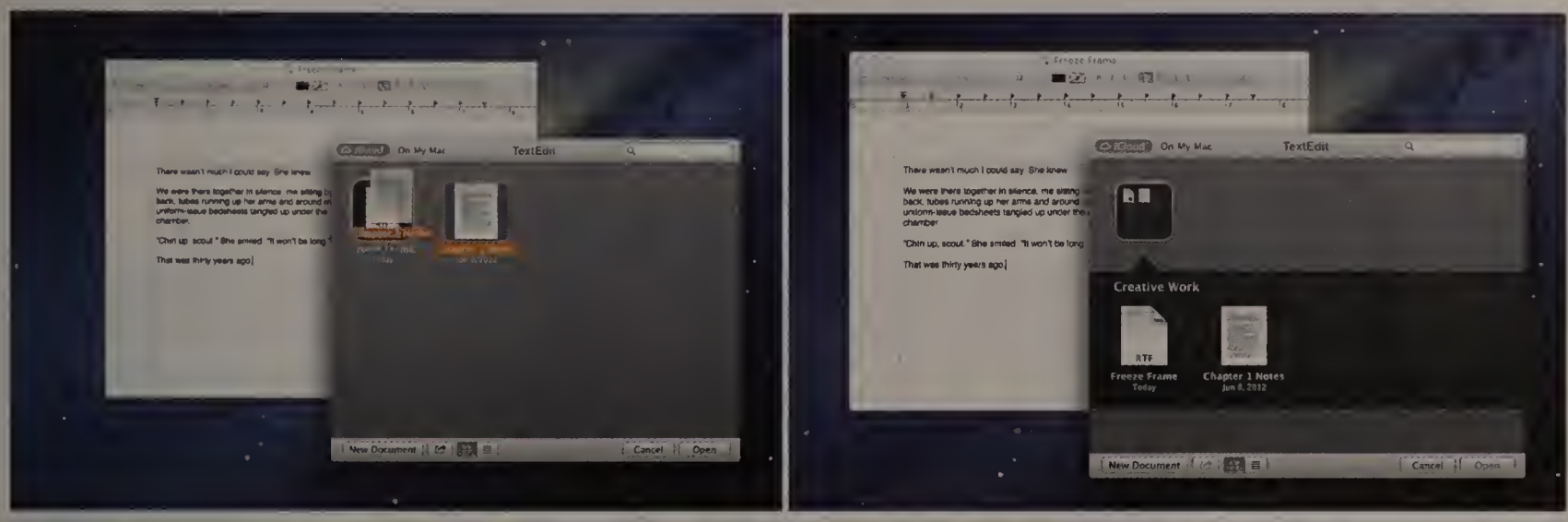
The biggest addition is called Documents in the Cloud. This feature allows the app you're using to store your documents in the cloud, wirelessly and remotely; you can then access them from any computer or iOS device you've linked to iCloud that has that app installed.

Unlike the traditional Finder, Documents in the Cloud puts each app in its own iCloud Document Library; the service has no master list of all your cloud-based documents. That could create some confusion if you use multiple apps—various text-editing programs, for example—to edit the same kinds of documents.

When you open a file in an iCloud-supported app, the Document Library window pops up. It looks similar to the template selection window of apps such as Pages, consisting of a single-pane window with the dark-linen background showing files as icons or in a list (your choice). When it's in icon mode, you can organize files by name or date; List mode lets you sort by size, too. At the top of the window, you'll find a search bar (in case your list of files grows unwieldy) and a toggle that switches from your Document Library to the standard Open dialog box for files on your Mac.

The first time you use an iCloud-enabled app, its library will be empty. You can populate it by dragging files from your Mac or from the Document Library of another application into that library window. By default, files you drag move to the Document Library—just as they would if

APP LIBRARY With Documents in the Cloud, each compatible app gets its own library of cloud-based documents.



FILES AND FOLDERS As in iOS, you can create folders by dragging one item on top of another—in this case, a pair of TextEdit documents. Unfortunately, you can't create folders within folders.

you dragged the file from one folder on your hard drive to another folder.

If you want to put a copy of the file in iCloud rather than moving it, you must hold down the Option key as you drag the item into or out of the Documents Library. You can duplicate a file within your Documents Library by holding down the Option key, dragging it out, and then dragging it back into the window; alternatively, you can Control-click (or right-click) the document in question and select Duplicate.

It's possible to organize your files into folders in a Document Library. You do so iOS-style, by dragging one file's icon on top of another's to create a folder containing both items. Unfortunately, you can't nest folders, but you can drag them from a Document Library to the Finder (or to another Document Library) just as you would a file.

Opening a file in the Document Library is as simple as double-clicking it. Files stored in iCloud retain their full version history, so you can use Auto Save, restore past versions of your files, and duplicate them with ease.

Back in the Document Library, you can share files by selecting them and clicking the Share button (or by Control-clicking [or right-clicking] the file). Though you can't share folders, you can select multiple files; not all sharing services support such selections, though. (Twitter only lets you share one picture at a time.)

If you no longer want a file, you can move it to the Trash by dragging it there or by Control-clicking (or right-clicking) it and selecting Move To Trash. Once you do so, that file will be inaccessible from all iCloud-connected devices.

When Mountain Lion initially shipped, Apple's TextEdit, Preview, and iWork suite all supported Documents in the Cloud. Third-party developers can also integrate it into their apps, but only if those programs are sold in the Mac App Store; apps that aren't in the Store can't support Documents in the Cloud.

SYNCING SYSTEM

Mountain Lion also supports several new iCloud syncing options. Your mail, calendars, and contacts still sync that way. Now, however, your tasks and text snippets sync through the new Reminders and Notes apps, respectively, rather than by way of Calendars and Mail, which handled those chores in Lion.

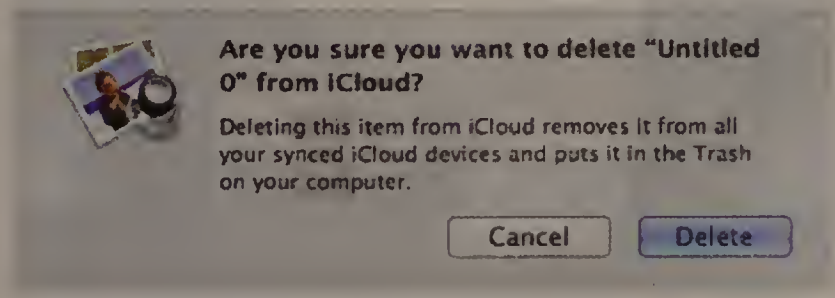
Speaking of Mail, iCloud syncs a bit more of your data now, covering recent senders, favorites, signatures, flag names, smart mailboxes and mail rules (across OS X only), and your account information.

> Now your tasks and text snippets sync through the new Reminders and Notes apps, respectively.

Safari also gets an iCloud boost: Synced tabs allow you to start browsing the Web on your iPhone and immediately pick up where you left off on your Mac. Macs running Mountain Lion have a cloud icon in the Safari toolbar; click it, and you'll see a list of your iCloud-enabled devices and any open Safari tabs or windows below them.

Unfortunately, you can't manually refresh this list, so you have to wait for iCloud to catch up and perform a sync operation if you've just opened a new browser tab on one device; that said, the process is usually fairly quick, taking no more than a minute or two.

—SERENITY CALDWELL



GONE, GONE, GONE Delete a file from a Document Library and it disappears from all your iCloud-connected devices, too.

WHAT'S NEW: THE SYSTEM

Sharing

ONE OF THE many features that Mountain Lion has borrowed from iOS is the idea of system-wide sharing. In many apps you'll see a Share button (an arrow popping out of a box), which makes it easy to disseminate whatever you're viewing—files in the Finder, websites in Safari, and the like. While in the past you might have copied and pasted a URL into your Twitter client, now you can share that link right from your browser.

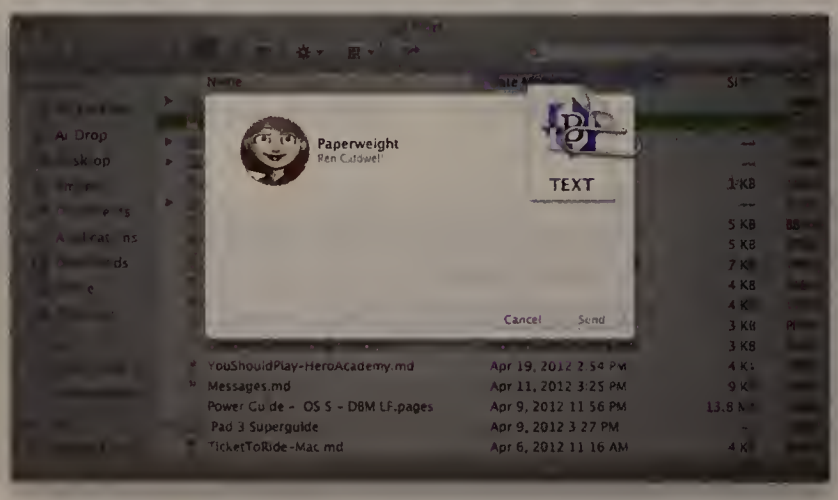
SHARING FROM QUICK LOOK Sharing services are available throughout OS X and its apps. Here, you can share a file from its Quick Look window.

SOCIAL SHARING

By default, Mountain Lion lets you share items through built-in OS X apps and services, such as Mail or iMessage. But sharing is extensible in a couple of different ways.

For one thing, you can add accounts for Flickr, Twitter, Vimeo, and (later this year) Facebook in the Mail, Contacts & Calendars preference pane; those accounts then become available as options in Share menus. You can enter multiple accounts for some services, such as Twitter, and pick on a per-post basis which one you want to use.

What happens when you choose Share varies depending on what you're sharing and the service you're sharing it to. For example, if you're posting to Twitter or Facebook, you get a sheet on which you can fill in your post, and a button that adds your location. When adding photos to Flickr or videos to Vimeo, you can add a title, description, and tags, and set the permissions levels. Apple also provides a handy visual cue to show what files or information you're sharing—it attaches a thumbnail of the content to the sheet with a paper-clip graphic.



VISUAL CUE When you share a file, OS X provides a handy reminder of the file type and the person you're sharing it with.

APP-SPECIFIC OPTIONS

When you choose to share something via email, Mail launches and presents you with a mail message, pre-populated with the content you're sharing: If it's a file, it's attached to the message, but if it's a webpage from Safari, you get a drop-down menu in the mail message that lets you choose to share it in Safari Reader view, as a webpage archive, as a PDF, or as a link.

In Safari, you can use the Share button to add a page to your Reading List or your Bookmarks. In the Finder, Preview, and Quick Look, that button includes an option enabling you to send a file to AirDrop or (if it's an image) to iPhoto or Aperture. Photo Booth, Contacts, and other apps have similar options.

The Share button isn't the only way to share, either. In the Finder, you can right-click a file and choose Share from the contextual menu. In Safari, you can right-click the location bar.

Twitter users can also use the sharing system to make posts: In Notification Center, you'll find an embossed Twitter button; click it to get a Share sheet for that service. Once Facebook integration arrives later this year, you'll also have access to a button that will let you post to that service.—**DAN MOREN**

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WHAT'S NEW: **THE SYSTEM**

Dictation

THOUGH IT FALLS short of full Siri integration, Mountain Lion's systemwide Dictation support does bring iOS's transcription features to the Mac.

SPEAK YOUR MIND

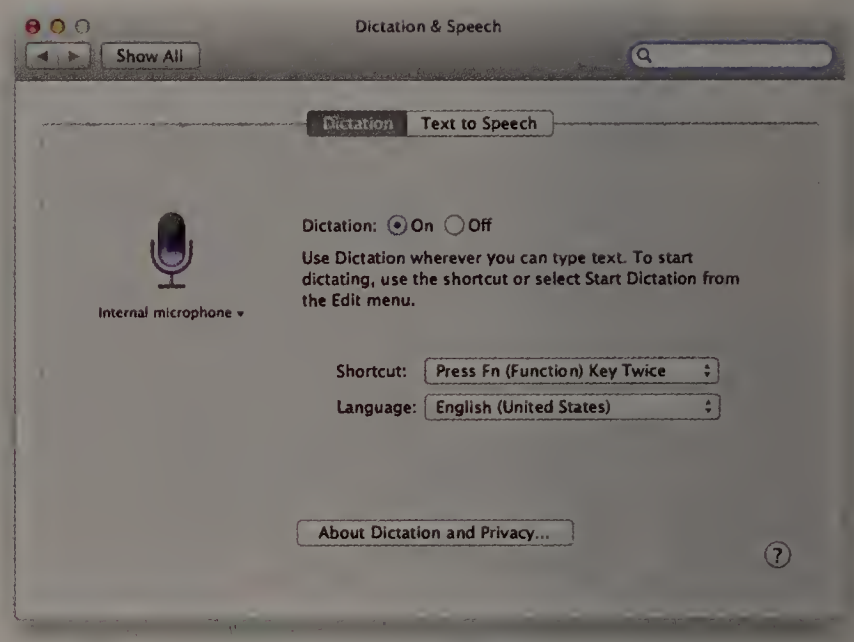
Anywhere you can type text on your Mac, Mountain Lion lets you dictate it, too. On iOS, the on-screen virtual keyboard provides a little microphone key that you can use to trigger Dictation mode. Because your Mac can't update your hardware keyboard dynamically, Mountain Lion requires you to use a keyboard shortcut instead.

By default, that shortcut is tapping the Fn key twice. (You'll also find a new Start Dictation item at the bottom of the Edit menu.) You can customize that shortcut in the Dictation & Speech preference pane. There, you can also turn Dictation on or off, choose the microphone, and specify the language you'll be speaking.

word as precisely as possible, so it automatically pauses iTunes and stops your laptop's fans to create as quiet an environment as it can. Both start up again if appropriate when you're finished dictating.

Dictation doesn't transcribe word by word as you speak; rather, it waits until you're all done. When you're finished talking, you can press your dictation keyboard shortcut again, press Return, or click the Done button by the Dictation microphone. If you press the spacebar or another key, however, Dictation loses any memory of what you said.

Your Mac doesn't convert the speech into text; Apple servers handle that job instead. For that reason, Dictation works only when you have an active Internet connection. Apple also requests your permission to upload certain bits of your data to its servers—notably, the first and last names of the folks in your Mac's Contacts—so that it can better transcribe the names and other personal information you're likely to say.



BETTER LISTENING Specifying your language improves transcription accuracy; so does allowing OS X to upload some of your personal data, such as contact names.

> You'll get better results if you take special care to enunciate clearly, particularly on homophones.

DICTATION PUNCTUATION

As on iOS, Dictation on Mountain Lion supports a variety of specific vocal cues. For one thing, you'll need to get comfortable speaking your punctuation—the software can't infer where your em dashes go on its own. *Instead comma get used to speaking like this period.*

You can use other dictation shortcuts, too. Common phrases to commit to memory include *new paragraph, new line,* and *quote … unquote.* You can also speak the names of some symbols, such as *dollar sign, asterisk,* and so on.

If Dictation isn't certain that it correctly transcribed a word or phrase, it underlines the item in blue; Control-click (right-click) to see suggestions. You'll always want to proofread transcriptions.

In general, Dictation performs capably, but it is far from flawless. While you can speak naturally, you'll get better results from Dictation if you take special care to enunciate clearly, particularly on homophones. The service will wait if you pause briefly. But if you leave Dictation open for a long time, it will eventually stop itself and transcribe whatever it has heard so far.

Dictation works just like typing; If you highlight text before you start dictating, the transcription will replace your selection; if you move the insertion point elsewhere in your document before you dictate, that's where your transcribed text will appear.

Admittedly, Dictation can feel awkward at first. Stick with it, though, and it can become a powerful way to gather your thoughts and compose text of varying lengths when using your keyboard would be difficult or unwieldy.—**LEX FRIEDMAN**

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WHAT'S NEW: THE SYSTEM

Gatekeeper & Security

THOUGH APPLE HAS long prided itself on the Mac's safety record, recent events (such as the emergence of the Flashback Trojan horse) have proven that the company can't take its operating systems' security for granted. The security upgrades in Mountain Lion make it clear that Apple isn't slacking off in this regard.

THE GATEKEEPER

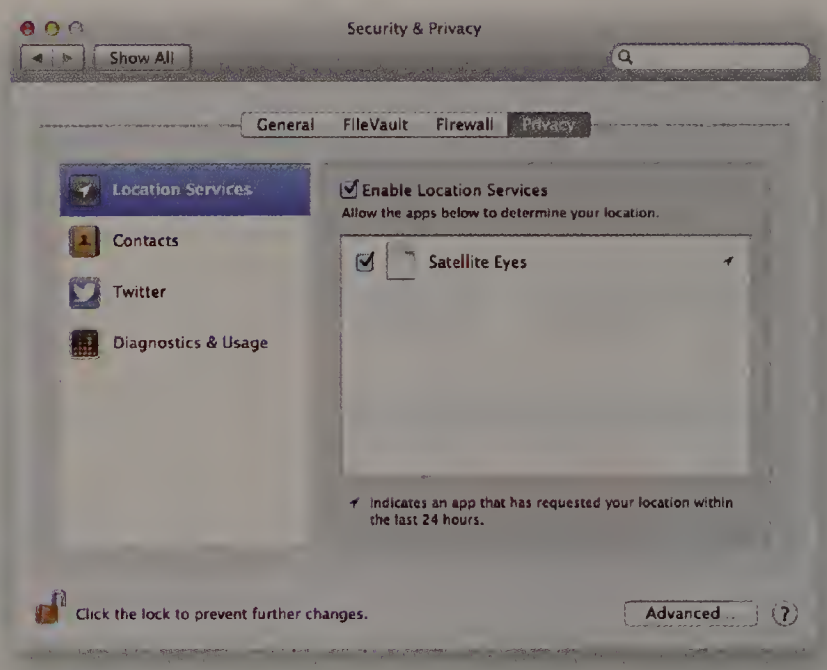
The marquee new security feature is Gatekeeper. To see how it works, open the General tab in the Security & Privacy preference pane and (after providing your administrator credentials) check out the Allow Applications Downloaded From option. That's Gatekeeper's front end.

You have three options: You can choose to run only those apps you downloaded from the Mac App Store, apps that came from the Mac App Store and identified developers, or apps from anywhere. The first and last options are straightforward, but the second option merits explanation.

Any developer can register with Apple to obtain a unique certificate with which it can cryptographically sign its apps. Thanks to such signatures, your Mac can identify which developer is behind a signed app. It can also tell whether anyone has tampered with the app. If the app behaves maliciously, Apple can revoke the developer's certificate.

Gatekeeper checks an app's provenance only the first time you launch it. So if you choose the Mac App Store–only setting, you can still launch apps that came from elsewhere, if you ever ran them in the past.

Should Gatekeeper settings prevent you from launching an app you really want to use, you can Control- (or right-click) the app's icon, and then choose Open from the resulting contextual menu. In the dialog box that appears is an option to go ahead and launch the app despite Gatekeeper's concerns. Once you select that option, the app should launch normally from then on.



UNDISCLOSED LOCATION In the Privacy tab, you can specify the apps that you'll allow to access your location information.

SECURITY CHECK Depending on your security settings, OS X may produce a pop-up asking you to confirm that you really want to launch an app.

OTHER IMPROVEMENTS

In addition to Gatekeeper, Mountain Lion employs various other technologies to help keep your Mac secure.

Most significantly, Mountain Lion expands on Lion's requirement that apps be "sandboxed." Sandboxing prevents apps from performing malicious activities on your Mac, and limits the damage security-compromised apps can wreak on your machine. All new Mac App Store apps are sandboxed; so are several Apple apps in Mountain Lion, including FaceTime, Mail, Reminders, Notes, and Safari.

Mountain Lion also uses Kernel Address Space Layout Randomization (ASLR) to make it harder for malicious attackers to exploit low-level system functions on your Mac. If you use FileVault, you can now take advantage of management updates to the `fdsetup` command-line tool, which allows third-party software to control and configure FileVault features. You also get finer control over which apps can access your location data, contacts, and Twitter credentials.

Finally, Mountain Lion checks for software updates daily. In previous versions of OS X, you could manually configure how often the system would check for updates; the default was once per week. But in Mountain Lion, software updates move to the Mac App Store, which can check for updates even when it's not running. You'll receive a Notification Center alert whenever new OS X updates are available. So when or if new Mac-focused malware starts to spread and Apple issues a fix, Mac users should at least become aware of the fix's availability more quickly than they might have before.

—LEX FRIEDMAN

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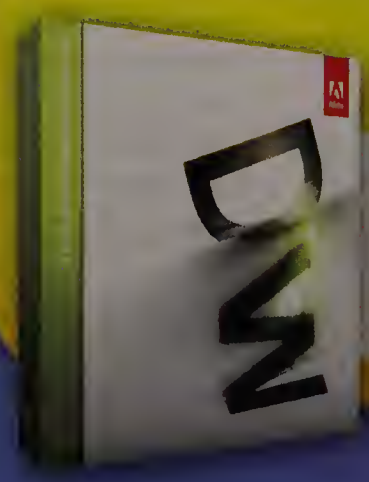

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WHAT'S NEW: THE SYSTEM

AirPlay Mirroring

WHEN iOS 4.2 debuted, Apple changed the name of AirTunes—the feature that let you stream music from iTunes to an AirPort Express—to AirPlay, and in the process upgraded it considerably. In addition to streaming audio from iTunes on your computer, you could stream from any AirPlay-enabled iOS app—you could even stream video to any Apple TV. As of iOS 5, you could actually mirror the screen of an iPhone 4S or an iPad 2 (or later): Whatever was on that screen could appear on the display connected to your Apple TV.

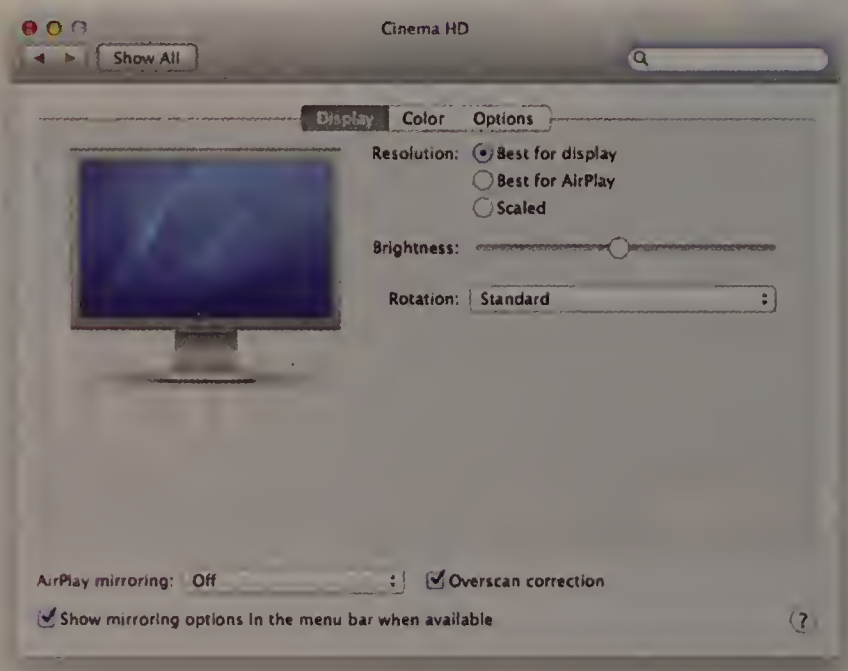
AirPlay mirroring was so great that people wanted it for their Macs. And in Mountain Lion, Apple has delivered.

PLAY YOUR MAC Mountain Lion adds an AirPlay Mirroring menu, where you select the Apple TVs you want to use.

MIRROR YOUR MAC

You can now send your Mac's screen to any second- or third-generation Apple TV on the same local network to mirror it on any connected TV. The only catch: Your hardware must be relatively new. Specifically, it requires a mid-2011 or newer iMac, Mac mini, or MacBook Air, or an early 2011 or newer MacBook Pro.

If you do have a compatible Mac, Mountain Lion automatically detects whether a compatible Apple TV is on your local network. If so, an AirPlay Mirroring menu appears in the Displays pane of System Preferences. (You can opt to have an AirPlay Mirroring menu appear in the menu bar whenever an Apple TV is available.) Choose your Apple TV, and in a few seconds the Mac's screen appears on your TV, with the Mac's audio playing through your TV or home-theater system. The video stream is encrypted, and it's optimized to give you the best image quality without stalling or producing glitches.



AIRPLAY ON You implement and configure AirPlay Mirroring in the Displays preference pane—but only on compatible Macs.

HIGH-RES MIRROR

Mountain Lion gives you a few options for choosing the best screen resolution, though your options depend on where you set them. From the system-wide menu, you can choose whether your Mac's screen appears at its standard resolution on your TV or changes to match the TV's native resolution—the latter option offers the sharpest image on your TV. In the Displays pane of System Preferences, you can choose your screen's native resolution (Best For Display), the best resolution for streaming to your TV (Best For AirPlay), or any of the other resolutions that your Mac supports (Scaled). The Displays pane also lets you enable overscan correction.

(Note: Apple's Mountain Lion features page claims that AirPlay Mirroring supports up to 1080p HD, but Mountain Lion's own Help system indicates that mirroring sends a 720p video stream with stereo audio.)

You'll find a few nice touches here. For example, if you play a video in iTunes while mirroring your Mac's screen, the AirPlay Mirroring feature automatically switches the video to full-screen mode on your TV. And if you just want to listen to your Mac's audio, you can use the Sound pane of System Preferences (or Option-click the system-wide volume menu) to choose any Apple TV or AirPlay-enabled audio device; you're no longer limited to iTunes audio for audio streaming.

In addition to being useful for watching movies, playing games, and surfing the Web on your big-screen TV at home, the new AirPlay mirroring feature is a welcome addition for presenters and teachers. With an Apple TV and either an HDMI-compatible projector or an HDMI-to-VGA adapter such as the Kanex ATV Pro ($60), you can project your presentations and live demos from anywhere in the room wirelessly.—**DAN FRAKES**

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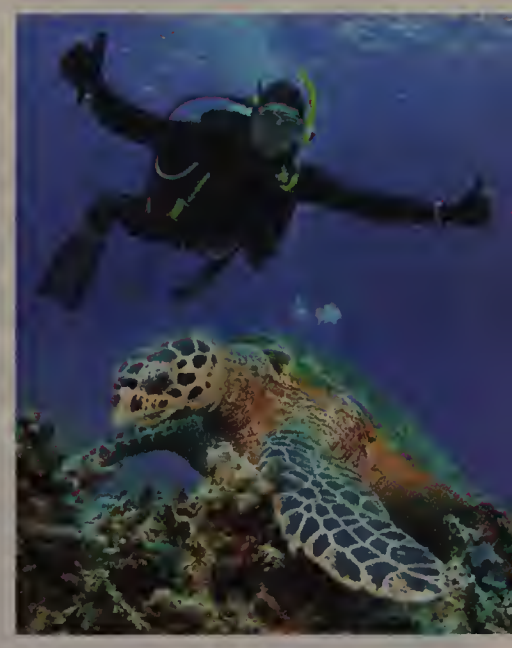

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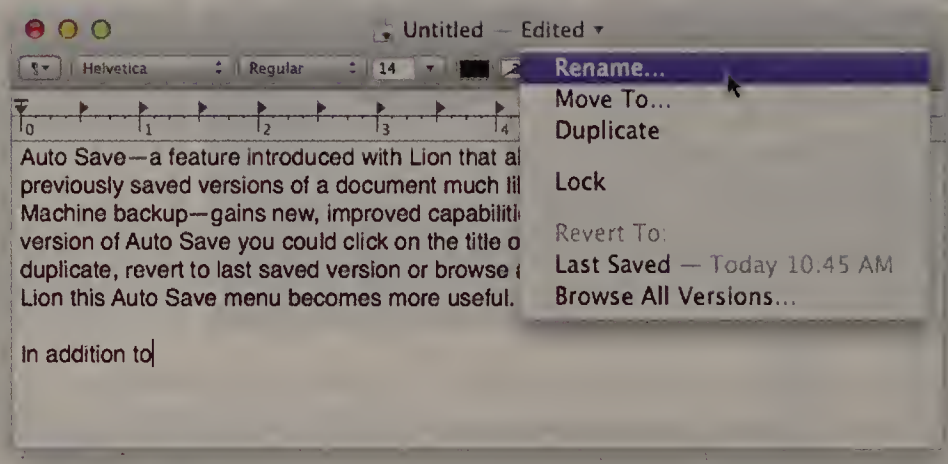
WHAT'S NEW: THE SYSTEM

Auto Save

AUTO SAVE—the feature introduced with OS X Lion that allowed you to browse back through previously saved versions of a document—gains some nice new capabilities in Mountain Lion.

In the Lion version of Auto Save, you could click the title of a document and choose to lock, duplicate, revert to the last saved version, or browse all versions of the file. Mountain Lion adds new options: Now you have commands for renaming and moving files, as well as for retrieving the last saved version of the file.



UPDATED MENU
Apple has updated the Auto Save menu in Mountain Lion to include new options, such as Rename and Move To.

Which of those commands you see depends on whether you've saved the file and where you saved it. For example, if you create a TextEdit document and type something in it, the file's title bar will read *Untitled — Edited*. The *Edited* label means that Auto Save has saved your file to iCloud. It's a useful feature should TextEdit inexplicably quit before you've saved your latest changes.

When you purposefully save the file, you have the option to save it on iCloud (provided you have an iCloud account

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and have granted your Mac access to it) or to your Mac. (Interesting tidbit: TextEdit will claim that it has saved your document to iCloud even if you don't have an active Internet connection. Obviously the file is stored locally, as it can't go online. However, once you do establish an Internet connection, the file gets moved automatically to iCloud.)

As of this writing, the option to save to iCloud is available in TextEdit, Preview, and an updated version of iWork.

> The title bar's drop-down menu makes it easy to move files between iCloud and your Mac.

MOVING FILES

The title bar's drop-down menu also makes it easy to move files between iCloud and your Mac. If a file already exists on your Mac, you can choose Move To iCloud; if it's already in the cloud, select Move To Mac and pick a destination on your hard drive. Note that when you do this, the file disappears from its current location. (That's why the command is Move rather than Copy.) If you've chosen to move it from iCloud, for example, it's now available only on your Mac.

If you save a file and then edit it without saving, you can revert back to the last saved version by selecting the Last Opened command from this menu. If you've saved the file more than once and want to find an older version, you can invoke Browse All Versions. Doing so brings up a Time Machine–like interface that will seem familiar to Lion users. (Keep in mind that the file's previous versions aren't actually stored in Time Machine, but on your Mac.)

THE RETURN OF SAVE AS

A final convenience offered in this menu is the Rename command. Select it to highlight the name in the title bar. Type in a new name and press the Return key, and your document instantly bears that new name.

Attractive as these features may be, the one that the greatest number of people are likely to welcome is the return of the Save As command. Under Lion, users wanting to save a copy of a file under a different name had to duplicate the file and rename it. Now you can just hold down the Option key and choose Save As from the File menu (or press ⌘-Shift-Option-S). Regrettably, Apple has stubbornly reserved the familiar ⌘-Shift-S shortcut (which once invoked Save As) for the Duplicate command.

—CHRISTOPHER BREEN

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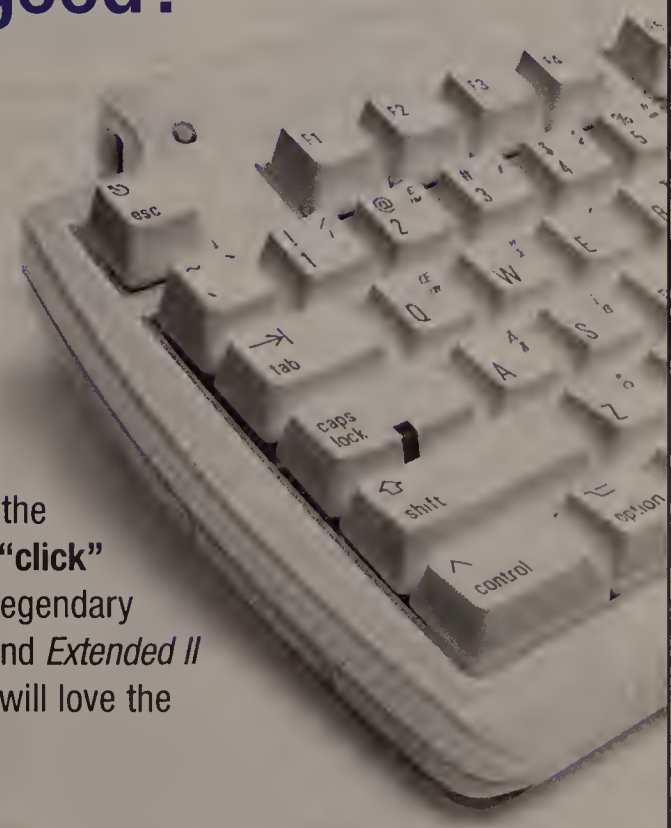

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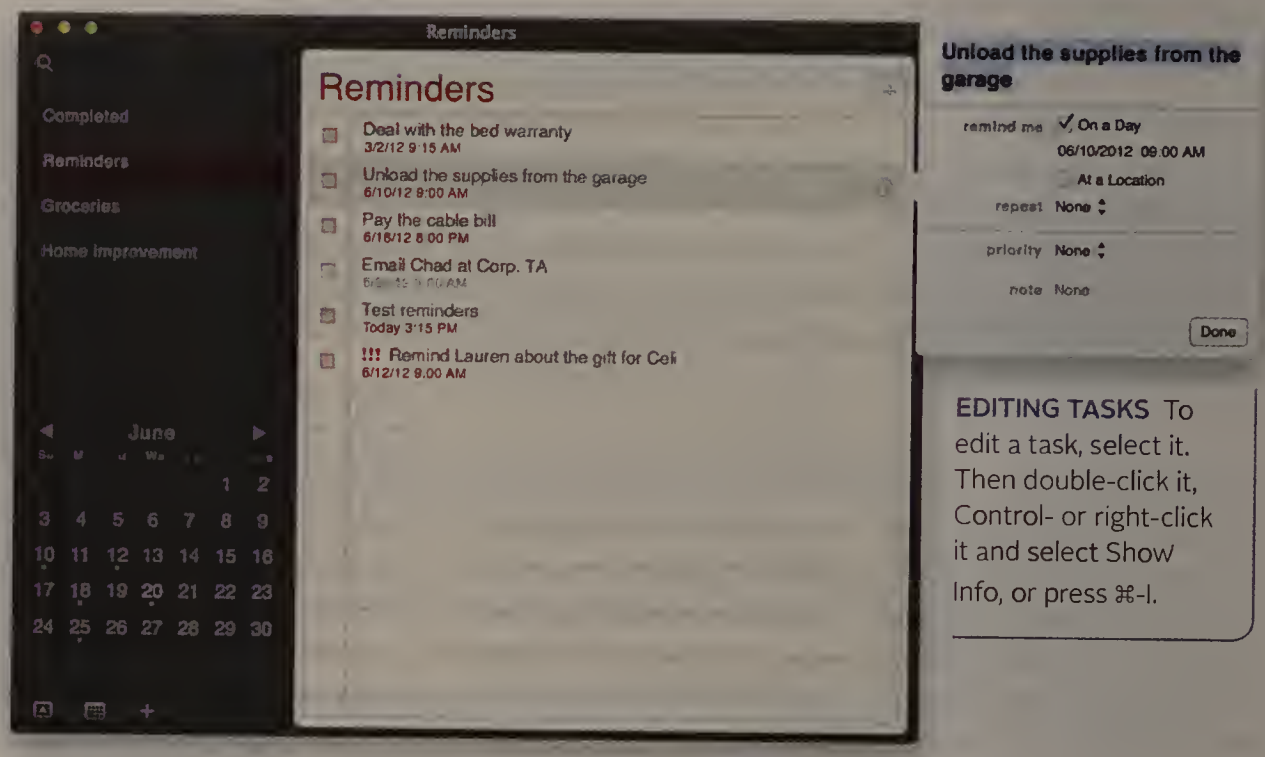
WHAT'S NEW: THE APPS

Reminders

WHY SHOULD THE iPhone and the iPad have all the fun? In Mountain Lion, Apple continues its process of porting the most appealing features from iOS to the Mac. Among those is an app that debuted with iOS 5: Reminders.

Reminders, of course, is a tool for recording and storing to-do lists, tasks, and any other little bits of whatever you want to remember. And if you're familiar with the Reminders iOS app, you'll feel right at home working with the Mountain Lion version—it is a near-perfect clone.



EDITING TASKS To edit a task, select it. Then double-click it, Control- or right-click it and select Show Info, or press ⌘-I.

LISTS

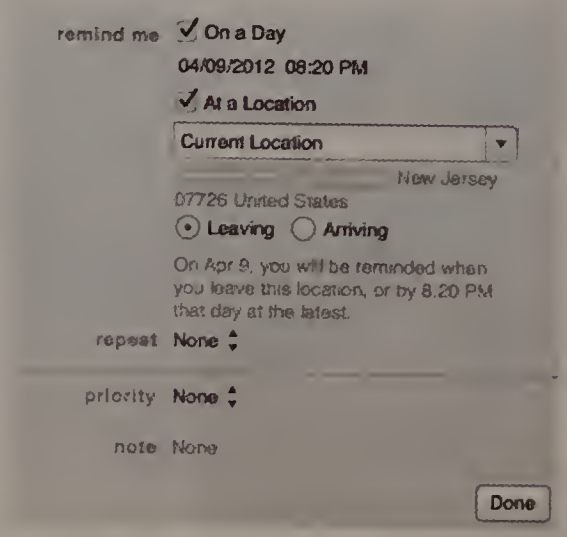
Like the iPad version of Reminders, the Mac application divides your tasks and notes into lists. You can base a list on a task category (Work vs. Personal, for example) or on context (Groceries, say). However you define them, lists are visible on the left side of the app window; to the right appears a faux sheet of wide-ruled loose-leaf paper, where you'll see the items for the currently selected list.

To create a new list, you have three options: You can choose File ▶ New List; you can double-click a blank section within the lists sidebar; or you can click the plus-sign button (+) at the lower left of the Reminders window. The other buttons down there toggle the list sidebar and a small calendar that indicates the dates for which you have reminders scheduled.

To delete a list, Control-click (or right-click) it, and then choose Delete. You can also use the contextual menu to open a list in its own window or to rename it.

To navigate between lists, you click them. If you use a Multi-Touch input device, you can also use two-finger swipes left and right to navigate across your lists.

Because Reminders can sync via iCloud, your Mac and your iOS device can share a common set of to-dos. They do so via accounts: Instead of the standard Preferences option in the Reminders menu, you'll find one called Accounts. Selecting that opens the Mail, Contacts & Calendars preference pane. There, you can add any iCloud accounts you'd like to use for syncing Reminders. Reminders also works with CalDAV services including Google Calendar and Yahoo Calendar; you can similarly add those accounts in System Preferences.



LOCATION-BASED TASKS You can specify either a place associated with a Contacts record or a street address.

TASKS

When you're ready to start adding tasks, you again have multiple input options: Choose File ▶ New Reminder; click the next blank line on your list; double-click anywhere below the last task on your list; or click the plus-sign button at the upper right of the Reminders window.

As you type in a new task, or after you hover over any task with the cursor for a moment, an *i* icon appears on the right; click it to configure extra details for your reminder. You can double-click a task to accomplish the same thing.

After creating a task, you can specify when or where Reminders should prompt you about it—either at a particular time and date or in a designated location.

If you check the At A Location checkbox, Reminders prompts you to provide details about the location you'd like

to use. You can enter either a contact's name (provided that the contact has an associated address in Contacts) or a street address. You then indicate whether you wish to be reminded when you arrive at or when you depart from that place. (In iOS 5, location-based reminders work only with addresses linked to specific contacts; Apple says iOS 6 will offer an improved capability.)

Other per-reminder options include recurrence and priority level. You can also attach notes. Adjusting priorities doesn't change where tasks appear in your list, but it does add an exclamation-point icon to indicate especially important tasks. You can drag and drop to rearrange tasks, or even drag tasks between lists.

Regardless of how you define these reminders, they will appear in Notification Center on your Mac. You can snooze them or close them when they pop up. Snoozing a reminder causes it to reappear 15 minutes later—not just on your Mac, but on any of your iCloud-synced iOS devices.

Keyboard navigation fiends, take note: You can use the Tab key to navigate between lists, tasks, and the search field. When you're in the tasks pane, type the first couple of letters in a task to select it, and then press ⌘-I to edit it. Similarly, when you're in the lists pane, type the first letters of a list to select it.

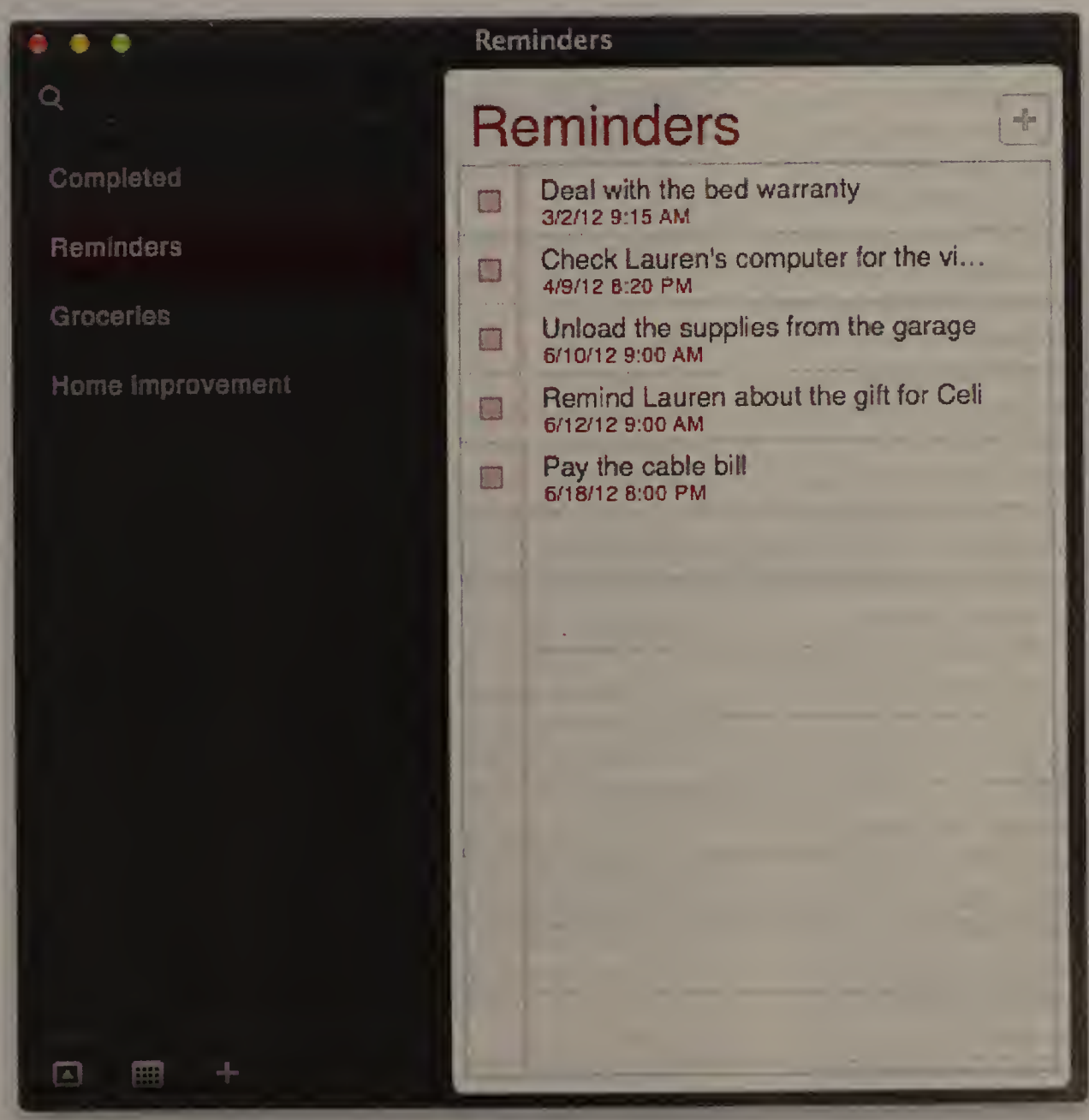
To mark a task as complete, you can click its checkbox (or, with the task selected, press the spacebar). You can view all of your completed tasks, across all your lists, by choosing the Completed list in the sidebar. To see the finished tasks for a specific list, scroll above the first item in that list; there you'll find a Completed section.

Though iCloud offers support for shared Reminder lists, you can't create such lists in the desktop app—instead, you'll need to add them via the iCloud website.

Reminders includes an integrated search box at the upper left of its window. Search results appear in real time as you type, with incomplete tasks listed first, ordered from those due soonest to those due latest. Below those entries is a similar list of completed tasks; oddly, they're listed with older due dates first, so you see completed tasks from long ago before more-recent ones.

> Seamless syncing with iOS devices gives a relatively simple app some serious power.

In short, Reminders on Mountain Lion faithfully re-creates the iOS version of the app, and offers a straightforward way to add, edit, and check off to-do list items. Seamless syncing with your iOS devices gives a relatively simple app some serious power; typing your shopping list on your Mac and accessing it immediately from your iPhone turns out to be pretty great.—**LEX FRIEDMAN**



KEYBOARD NAVIGATION Use the Tab key to move from the lists pane to tasks to the search field; use arrow keys or type the first letters of an item to navigate up and down through lists and tasks.

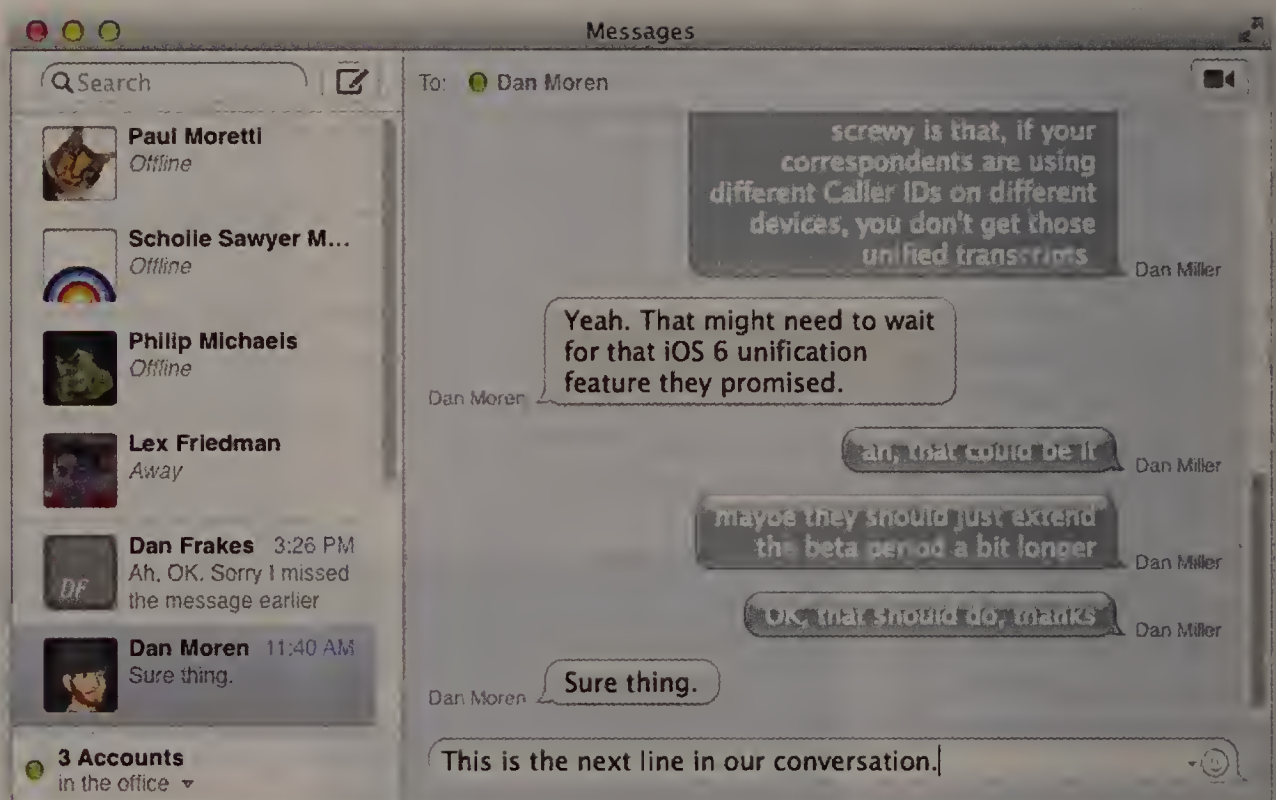
WHAT'S NEW: THE APPS

Messages

MESSAGES IS NOT just iChat with a new skin. Sure, the interface looks different. But in addition to its updated interface, Messages introduces a big change to the way instant messaging works on the Mac.

That's because, unlike iChat, it works with the iMessage platform that Apple introduced with iOS 5. It still works with standard IM networks such as AIM and Jabber, and it can still send SMS texts to non-iOS phones.

But iMessage isn't just another messaging platform like all the others. Rather, it ties your Mac and iOS devices into a single unified ecosystem. You can—in theory—start a conversation on your Mac and then pick it up later on your phone. You can—again, in theory—see your entire chat history with a contact, regardless of the devices you used for those chats. And for better or worse, when someone chats with you via iMessage, you'll be alerted on your Mac as well as on your phone and tablet.



A MOVABLE CHAT In theory, you can start a conversation with someone on one device and finish it on another.

NEW LOOK AND FEEL

Messages feels different from iChat as soon as you open it. Instead of iChat's single-column buddy list and separate windows for chats, Messages' default interface consists of two panes, with contacts on the left and a chat window on the right.

The left pane isn't a buddy list. Rather, it shows you a list of the people you've chatted with most recently—their names, the time or date you last communicated with them, and the last few lines of your most recent exchange. You can sort that list chronologically or manually. (You specify that preference in View ▶ Sort Conversations.) The default interface includes some of those venerable status messages (Away, Available, and so on); if someone is offline, it will say so.

To initiate a conversation with someone, you can either select the person from the list of recent exchanges or type the person's name or phone number in the To field at the top of the right pane.

The chat area on the right isn't dramatically different from an iChat conversation window: A text-entry box appears at the bottom; until you begin typing, it displays the name of the service you'd use for that particular chat. At the top is a camera button for video chats (more on that in a moment). And in the main window, you see a transcript of your last conversation.

If you miss the old iChat interface, don't worry. Press ⌘-1 (or select Window ▶ Buddies) to see a buddy list like iChat's. From there, if you double-click a contact, you'll go back to the conversation pane, ready to chat.

For group chats, select multiple people in your contacts list (as you did in iChat) or enter multiple names, numbers, and email addresses in the To field. When one person replies in a group chat, everyone else sees that response.

If you're having multiple one-on-one conversations simultaneously, you can open individual windows for each one simply by double-clicking each contact in the contacts list on the left. That may be easier to manage than juggling a bunch of conversations in a single pane.

When you click the little triangle next to a contact's name in the To field, you see a list of all the ways you can reach him or her, including all of the email addresses and phone numbers he or she has registered with iMessage, as well as AIM and other conduits.

SELECT YOUR SERVICE

If you do use iMessage as one of your accounts in Messages,

your Mac and iOS devices theoretically become a single unified messaging tool. But in our preliminary testing, we found that theory and reality didn't always sync up.

That business about starting a conversation on one device and finishing it on another? It didn't always work. We had messages appear on our Macs but not on our iPhones, and vice versa. We were able to identify one possible cause: Contacts who used different email addresses as their caller IDs on various devices seemed to confuse the system.

Another quirk of the system is that when someone initiates or continues a chat with you, you'll be notified about it on all of your iMessage-compatible devices. So if you have an iPad or an iPhone lying nearby while you're working on a Mac, you might go a bit batty when they all signal at the same time to let you know someone wants to chat.

Messages does inherit some nice features from the iOS app. You can, for example, opt to send receipts to people you're chatting with, telling them you've read their message. (That does make it a bit harder to duck out of awkward chats.) You can see when the other party is composing a reply (and vice versa). All of those iMessage conversations are encrypted from end to end. You can, of course, use the iMessage system to send photos, videos, and other multimedia file types; it permits attachments of up to 100MB.

Messages works just fine as a client for the standard IM networks, too—AIM, Yahoo, and Jabber (and by extension, Google Talk). As noted before, Messages also supports SMS messaging; you just type the phone number into the To field. (You must have an AIM account enabled to do so.) It's nice being able to mix and match chats with people on all of those different systems at once. Messages still supports audio and video chats and screen sharing on the other services.

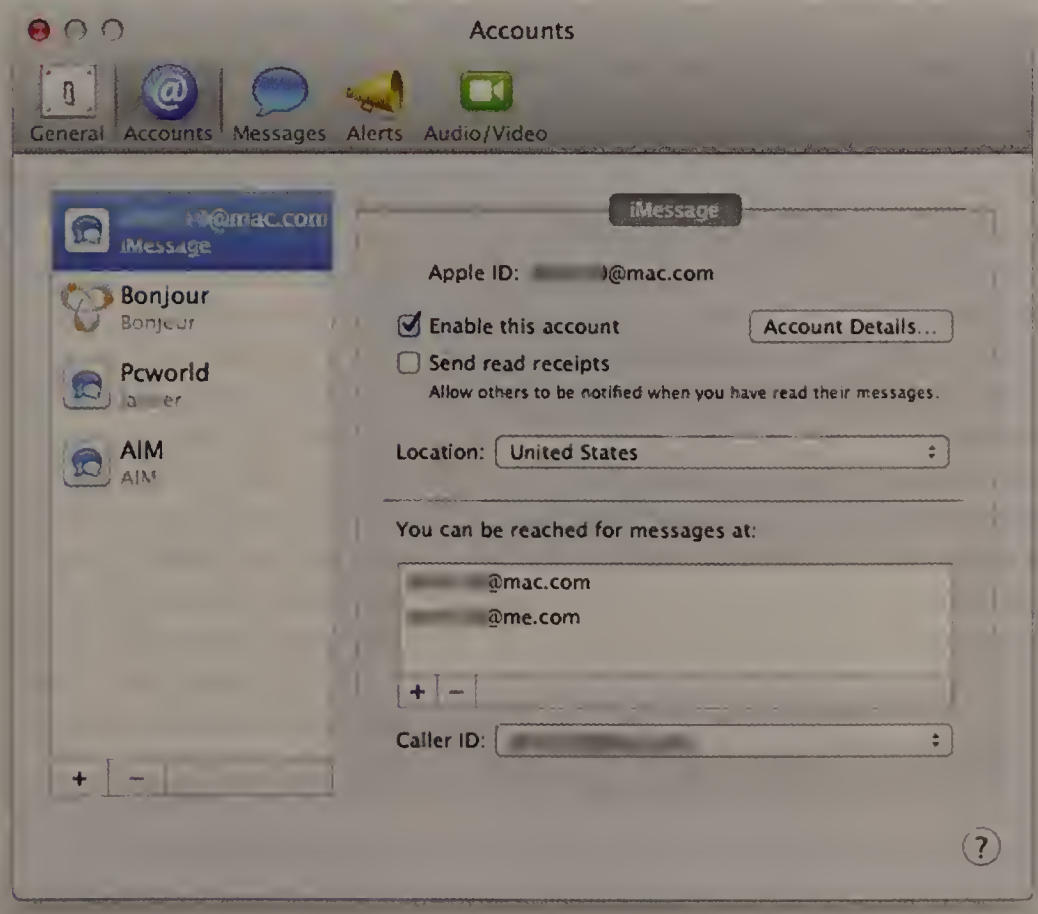
There is one significant difference between various types of accounts: When you select an AIM account in the Accounts preference pane, you see a Privacy tab that lets you limit which of your contacts can see that you're online and send you messages. (The options include Anyone, Anyone In My Buddy list, and so on.) That tab isn't available for iMessage, which means that when you're using iMessage, you're perpetually available to anyone, unless you block or ignore a specific person.

We also noticed an odd split in the way Messages manages video chats. To video-chat with someone, you click the camera icon in the upper right corner. That produces a drop-down menu showing the person's various addresses. Those associated with iMessage come first. If you select one of those addresses, Messages switches you over to the FaceTime app. But if you select an address on AIM or another standard IM network, you stay in the Messages app for that session. You can switch from a text chat to a video conversation midstream by clicking that camera icon.

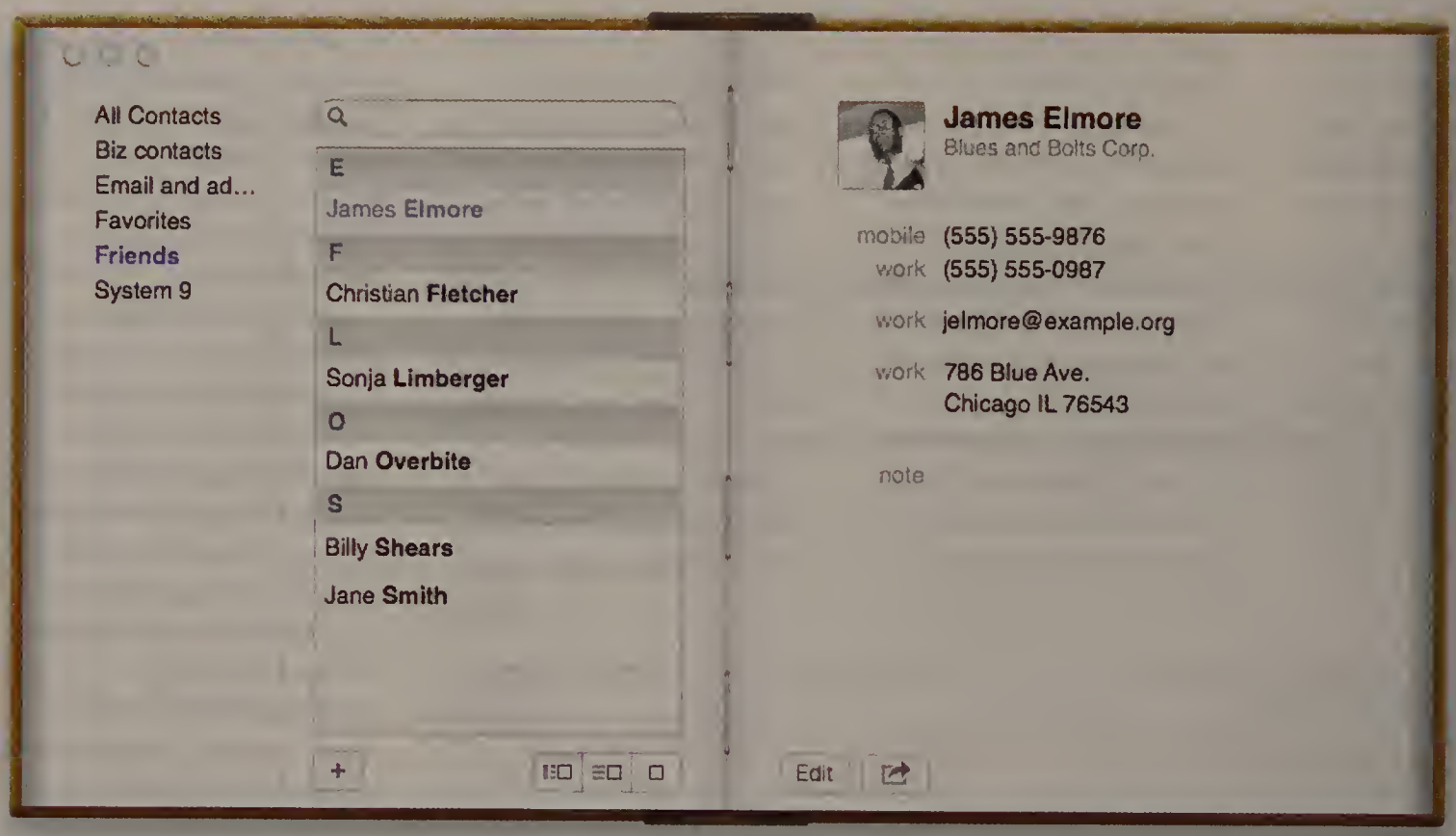
> When someone initiates a chat with you, you'll be notified on all of your iMessage-compatible devices.

Messages obviously establishes Apple's own iMessage system as first among equals: Wherever you turn, iMessage is the favored choice. In theory, that may not be such a bad thing: When the iMessage system works, you can do more with it than you can with the other services.

But that's the theory. In practice, during our brief time with the shipping code, Messages has been a hit-or-miss proposition at best. Perhaps Apple will update the app and fix the glitches. Perhaps we'll just have to learn to live with some of these things. Either way, after so many years of using iChat—whose limitations many of us came to take for granted—Messages is a big change in chat.—**DAN MILLER**



NO PRIVACY
AIM accounts have a Privacy tab, where you can specify who can see you're online; iMessage doesn't have that tab.



THREE COLUMNS Contacts restores the three-column view: groups on the left, contact lists in the center, and individual contacts on the right.

WHAT'S NEW: THE APPS

Contacts & Calendars

TWO FAMILIAR OS X apps get new names in Mountain Lion: Address Book becomes Contacts, and iCal is transformed into Calendars. But the changes in both apps are more than name-deep.

CONTACTS

Contacts marks the return of the beloved three-column view found in Snow Leopard's Address Book. In Lion, Address Book offered a two-column view: It either showed groups on the left page and a list of contacts within that group on the right, or—if you clicked the bookmark at the top of the page—a group's contact list on the left and a selected contact on the right.

Mountain Lion's Contacts puts the list of groups on the left, a list of contacts in the middle, and a specific contact's card on the right—the same arrangement Snow Leopard used. You can switch between three-, two-, and one-column views by clicking the appropriate buttons at the bottom of the Contacts window or by choosing Groups, List And Card, or Card Only, respectively, from the View menu.

Mountain Lion's Contacts app addresses another issue that has confounded users for years: What happens when you have the same contact on more than one service—iCloud, Yahoo, and Google, say? Often, that one person would appear as three separate entries. Contacts fixes that with a unified view that incorporates information from multiple services for a single contact. So if you've stored Sally Jones's street address in iCloud, her phone number on Yahoo, and her email addresses in your Google contacts, Contacts should create a single entry that combines all of those bits of information.

If a person has multiple records, but Contacts doesn't recognize them as belonging to the same individual, you can combine them. Select one, press ⌘ and select the other, and then choose Merge And Link Selected Cards from the Card menu. The two cards will become one. When you examine this newly unified card, you'll see a Linked Cards entry that indicates the accounts and names from which the information originated—Yahoo and iCloud, for instance, under the names Chris Breen and Christopher Breen.

Finally, Contacts expands the Share button's talents. Under Lion, if you selected a contact and then clicked the Share button at the bottom of the window, Mail would open and create an unaddressed email message with the contact attached as a vCard file. Click the Share button in Contacts and, in addition to Email Card, you have two more choices: Message Card and AirDrop Card.

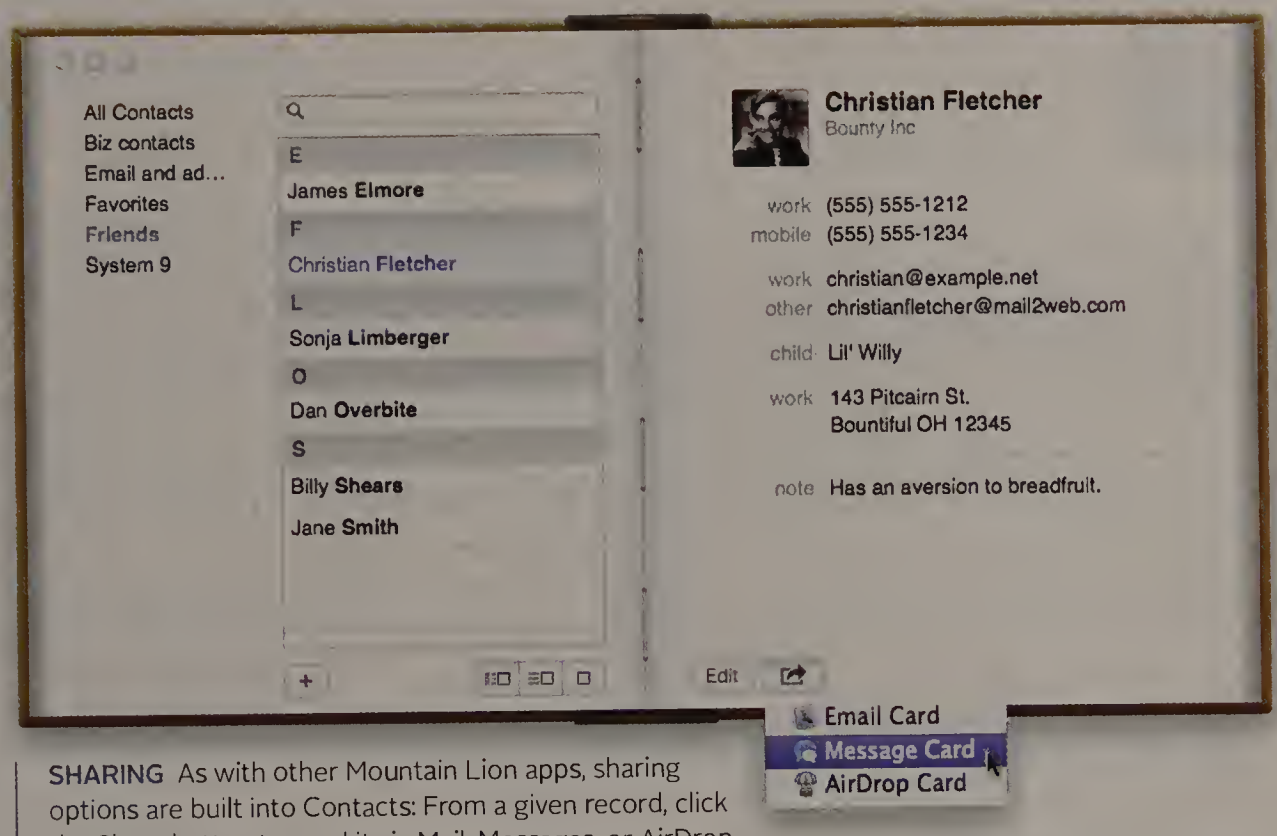
When you choose Message Card, a new message window appears with the card embedded as a vCard file. To send it, just address the message and click the Send button. AirDrop Card works similarly. When you select it, an AirDrop window appears, along with the embedded vCard. Anyone on your local network who has the AirDrop window open can receive the card. All you have to do is select a recipient and press the Send button.

CALENDAR

Like Contacts, Calendar offers a welcome combination of a retired-but-returned feature and new capabilities.

For one thing, the Calendars pane reappears. In Lion's iCal, to choose among your many calendars, you had to click a Calendars button and select your calendar from the resulting drop-down list. In Mountain Lion, that list has returned to the left pane, where it was located in Snow Leopard. Click the Calendars button in the top left portion of the screen to show or hide this pane.

On the new side of the ledger, Calendar introduces search suggestions. Much as with Spotlight, when you type a term into Calendar's Search field, matching (or nearly matching) events appear in a list. Enter **`Dentist`**, for example, and you may find *Dentist Appointment* or simply *Dentist*. Choose one of those suggestions, and matching events appear in a list on the right. You can focus searches on event titles, location, invitees, or words in event notes.



SHARING As with other Mountain Lion apps, sharing options are built into Contacts: From a given record, click the Share button to send it via Mail, Messages, or AirDrop.

In its Edit and Inspector windows, Calendars includes a mini-calendar display. Click a date within one of those windows, and the mini-calendar appears. When you choose a different date on the calendar, your event shifts to that date.

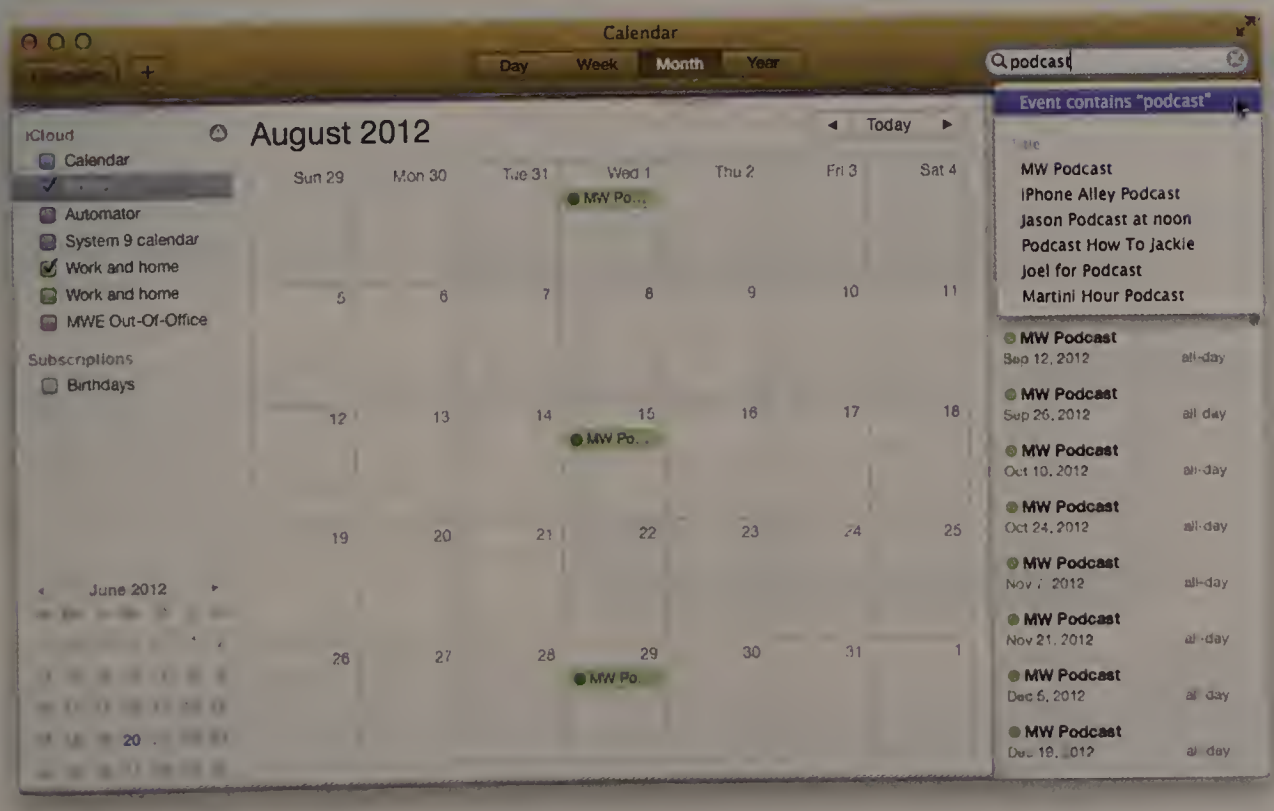
You can also change end times for events more easily: Click the ending time for an event, and a menu appears that lets you shift that time back half an hour (from 3:00 p.m. to 2:30 p.m., for example) or forward, in half-hour increments, up to 3 hours after the beginning of the event.

Given how fiddly the Information and Edit windows can be, any opportunity to simply click in lieu of having to click and type is welcome.

Finally, in addition to throwing up an alert when an event alarm goes off, Calendar posts alerts in Mountain Lion's Notification Center. If you've chosen to show events in Notification Center (you can turn this option off in the Notifications preference pane), you can't remove calendar events by clicking an X next to an application heading, as you can with other applications. Calendar events remain in Notification Center until they expire.

As is the case with other items that involve notifications, you can configure how event alerts behave in the Notifications system preference. By default, calendar events appear as alerts that you must acknowledge. If you prefer a banner that flashes and then disappears, choose that option in the Notifications preference pane.

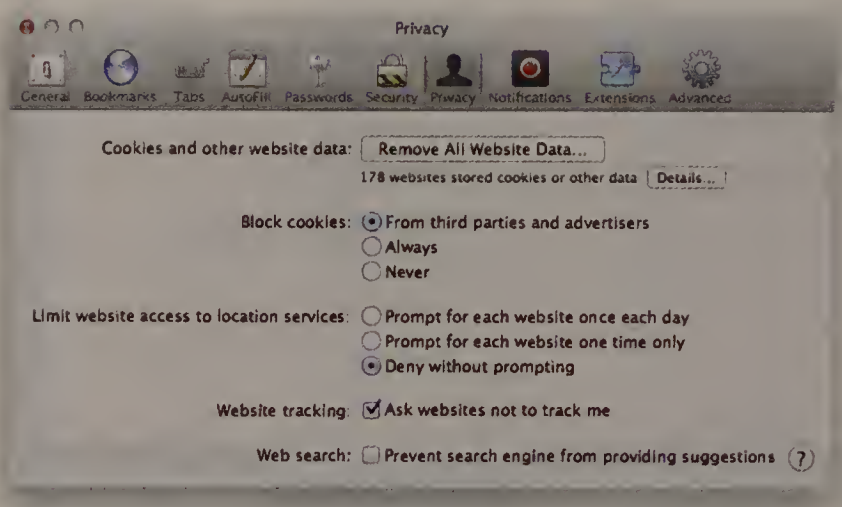
—CHRISTOPHER BREEN



CALENDAR SEARCH Enter a search term in Calendar, and the application finds it in event titles, locations, invitees, and event notes.

WHAT'S NEW: THE APPS

Safari



DO NOT TRACK Previous editions of Safari supported the Do Not Track privacy standard; Safari 6.0 makes it more accessible.

SAFARI HAS been around forever, and you might not think Apple could do much to improve it in Mountain Lion. But the company has found some clever—and welcome—ways to update the app.

TABS AND SEARCH

One way Apple accomplished that positive result was by taking some inspiration from other browsers. The most obvious example is the new unified address and search bar. Like Google Chrome, Safari 6.0 has a single text box up top (instead of supplying one box for Web addresses and another for searching).

Type a URL in the new box, and the browser goes to that site. Type some text in it, and Safari performs a search for that term. As you type, the browser shows you a drop-down list of possible hits. First comes a section that it calls Top Hits—the things it guesses are most likely what you're looking for, based on your previous browsing patterns. After that, Safari lists some possible search terms you might want to use on Google, the default search engine. (You can, of course, change that default in the application's preferences.) Below that are matching hits in your browsing history and bookmarks.

The other way Apple has updated Safari is something it has done throughout Mountain Lion: tying the desktop OS and its apps more tightly than ever to iOS and iCloud.

In this regard, the new Safari offers something called iCloud Tabs. Clicking the iCloud Tabs button (the one with the cloud on it up in the toolbar) produces a live list of the browser tabs that are open on all of the other OS X and iOS machines linked to your Apple ID and iCloud account.

What that potentially means is that you can start reading something on your iPhone, and then switch to your Mac later and pick up where you left off. We say *potentially* because this feature won't be fully functional until the release of iOS 6 this fall. For now, it works well for syncing Safari tabs between Macs.

There's also a touch-friendly new Tab View. If you have a touchpad, you can reveal all of the tabs you have open with a pinch gesture; then you can switch between them using a two-finger swipe left or right. These new gestures feel familiar because they mimic similar gestures in iOS. Visually, tabs emulate those in iOS: They stretch and shrink as necessary to fill the span of your browser window.

PASSWORDS AND PRIVACY

The new Safari also has a new system for tracking passwords. It remembers passwords you've entered so you don't have to enter them again. If you forget a saved password, click the Show Password box to reveal it. When you supply your system credentials (neither Firefox nor Chrome requires that), Safari shows you the password. It's not as secure as 1Password or some other password utilities, but it's better than Safari 5.0's options. Safari also has improved its support for the emerging Do Not Track security protocol; it's now much easier to implement.

Safari contains lots of other nice little tweaks as well. The offline reading list feature (select Bookmarks ▶ Add To Reading List, or press ⌘-Shift-D) is particularly welcome. Like so many other Mountain Lion apps, Safari has a Share button, which lets you quickly share a page to your Reading List or as a bookmark; you can also send it to someone else via Mail, Messages, or Twitter. (Facebook integration is coming soon.) And finally, Safari also works with Notification Center: Websites can ask you for permission to show alerts, but you don't have to say yes.

—LEAH YAMSHON

PASSWORD PROTECTION
When you try to recover a forgotten password, the new Safari demands to see your system credentials first.

Flight	Destination	Time
LT 1287		16 35
YD 746	YOU	16 40
VU 439	ARRIVE	16 55
UI 3115		17 00
YP 2577	YOUR	17 05
SR 641	LAPTOP	17 15
VU 3935	DOESNT	17 35
YY 108		17 40
DA 837		17 50
PA 1051		18 05
IU 8420		18 25

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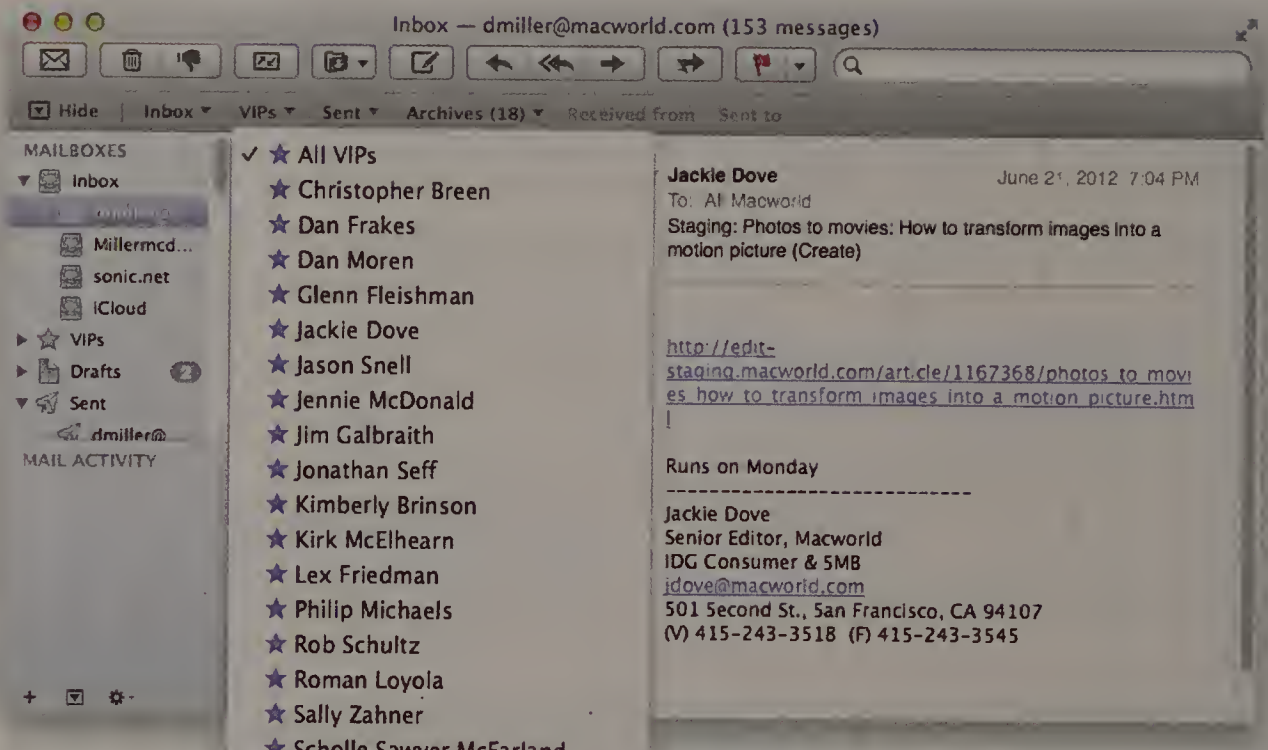
WHAT'S NEW: THE APPS

And That's Not All ...



VIP SERVICE Once you designate certain contacts as important, Mail makes it easier to focus on messages from them.

WE CAN'T COVER all of the new features in Mountain Lion (Apple claims there are more than 200) in depth. Here are a few additional highlights.

MAIL

Mountain Lion makes it easier to keep track of messages from the people who matter most to you, by letting you designate them as VIPs. Once you do so (by clicking the star icon next to the name in a message), every message to or from that person is flagged with a star. Each VIP receives an entry in the new VIPs section of the Mailboxes sidebar, where you can see all messages to or from that person.

Also, Mail uses Notification Center to alert you to new messages (you can customize which ones). It gains a Safari-like inline find feature, too: When you type a search string in the Find field, the body of the current message dims and Mail highlights every occurrence of that string.

One thing you won't find in Mountain Lion's Mail app is the old RSS reader. In Lion, you could subscribe to an RSS feed in Mail to get alerts about, and read, newly published articles from your favorite websites; but that feature is gone from Mail in Mountain Lion.

FINDER

When you're downloading a file or copying it from a server to your desktop, the Finder in Mountain Lion displays a progress bar in the file's icon. It's also possible to cancel copy jobs in progress.

The Finder's sidebar is more customizable: You can drag the various categories there (Favorite, Shared, and so on) into whatever order you wish. You can secure drives by using the Encrypt command in the Finder's contextual menu. And you can trigger Quick Look with a three-finger tap on the trackpad (as well as the old-fashioned spacebar way).

And, of course, you can use the Share button that pops up all over the place (see "Sharing" on page 48).

PREVIEW

Mountain Lion simplifies Preview's toolbar by putting multiple tools behind single buttons. For instance, if you click the Edit button, a toolbar drops down with options for correcting PDFs and images.

You can highlight text, and then Control-click (or right-click) to choose a color or add a note. You can underline or add strike-through marks to text. You can view all your notes and highlights at once in the sidebar (View ▶ Highlights And Notes). And you can search notes and highlights by author and/or content.

Preview has also gotten a lot smarter about filling out forms. Previous versions let you do things like inserting your signature, but the new version detects areas intended for text entry (such as underlines and boxes) and, when you click them, lets you enter the information. You can also click to select checkboxes.

NOTES

Mountain Lion's new Notes application may not replace Stickies (which is still there), but it does far more.

The new Notes has better tools for organizing notes. In the Accounts column on the left, you can view all of your notes (by clicking All Notes) or choose to see only the ones synced with a particular IMAP account. You can also create folders for your notes there. Once you've created a folder, you can drag notes into it or select the folder and create new notes within it.

You can now embed links (just drag them into notes) and attach files (ditto). Click the ubiquitous Share button to send a note as an email or message attachment.

(PS: If you miss Stickies, double-click a note in the Notes pane to open it in a new Stickies-style window.)

—MACWORLD STAFF

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How to maximize the battery life of your laptop and gadgets when you travel

BY LEAH YAMSHON

Admit it: Your carry-on bag is stuffed full of digital gear you can't bear to leave at home. Keeping all of these devices charged when you're constantly on the go or stuck on a plane can be a challenge. Here are a few things you can do to extend battery life and save power.

Invest in a Battery Case

A battery case for your iPhone is a great accessory to keep in your carry-on. These cases add extra battery life to your iPhone while also keeping it safe from the occasional drop and bump. Most sport dock-connector plugs that pair up with the iPhone's 30-pin port, which is how they deliver the juice. The only downside is that you can't use any dock-cradle accessories without removing the iPhone from the case.

One of our favorite battery-charging cases is Mophie's $100 Juice Pack Plus (♦♦♦♦½; macworld.com/a/1160878). It just about doubles your iPhone's battery life and doesn't add too much extra weight, and you can still sync your iPhone using the included USB-to–Micro-USB cable. Plus, it has an on/off switch, which lets you control when the case sends juice to your phone.

Sol's $90 Hybrid Power Pack (♦♦♦♦; macworld.com/a/1160878) is another solid option that provides different charging options: You can charge your phone using the sun's rays, bright indoor lighting, or via USB. This is great when you're lounging on the beach with nary an outlet in sight.

You also can pick up an external battery case for the iPad, which is particularly handy when you watch videos on an airplane. MiPow's $119 Juice Book (www.mipow.com) is a folio-style leather case with one of MiPow's Power Tubes embedded in its spine. This Power Tube provides 6600mAh to boost the iPad's battery life when it gets low—just plug it in to your iPad's dock-connector port. The Power Tube can charge your iPhone or iPod, too.

Keeping all of your devices charged when you're constantly on the go or stuck on a plane can be a challenge.

Pack One Charger

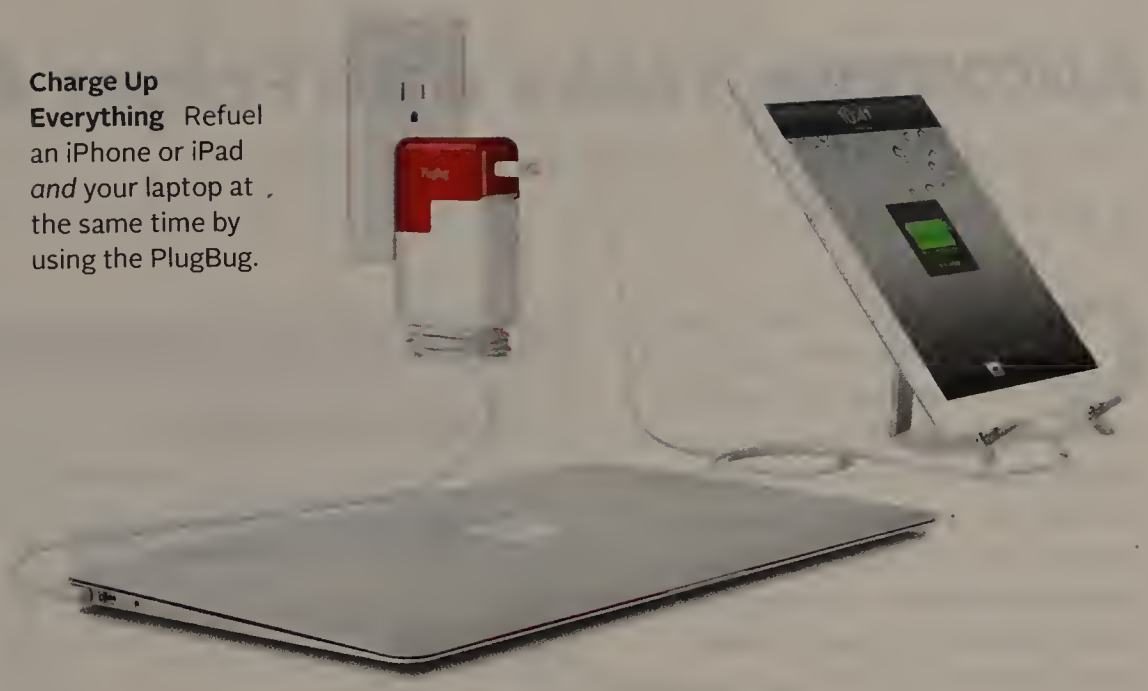
It isn't necessary to bring both of the chargers that came with your iPhone and iPad; save space by bringing your iPad's. Though the iPad charger is bigger, its prongs can retract into its square body, like those of the MacBook charger. The prongs on the iPhone charger don't retract, so it takes up more room.

The two chargers also supply different power levels. Since the iPad has a bigger charging requirement than the iPhone, it has a heftier power adapter—a 10-watt USB adapter, compared to the iPhone's 5-watt USB adapter. Although you can use the iPhone's adapter for your iPad, the device will take significantly longer to reach a full charge than it would with its own charger.

If you're traveling with your MacBook as well, consider the $35 TwelveSouth

ILLUSTRATION BY JOHN UELAND

PlugBug (twelvesouth.com). This gadget attaches to your MacBook's power brick and allows you to charge a USB device (like your iPhone or iPad) while also charging your laptop.



Charge Up Everything Refuel an iPhone or iPad *and* your laptop at the same time by using the PlugBug.

Opt for Battery-Saving Apps

Only the MacBook Air and the new MacBook Pros support OS X Mountain Lion's new power-saving feature, Power Nap. (See page 40 of "OS X Mountain Lion" in this issue to read more about Power Nap.) The rest of us can use a battery-monitoring app to keep a closer eye on energy supply.

Axonic Labs' $5 Deep Sleep (www.axoniclabs.com) puts your MacBook into what it calls "hibernation" instead of just putting it to sleep when you close the lid while it's still powered on. (Even in sleep mode, your Mac draws power from the battery.) The utility saves the contents of RAM to your hard drive and stops drawing any power at all from the battery when your MacBook is not in use. It takes a little longer for your Mac to wake up, but all of your apps and documents are restored just as you left them, and your battery is less taxed.

Tweak iPhone and iPad Settings

Saving your battery's charge can be as simple as tweaking some settings:

Turn Off Wireless Options When you're not using Wi-Fi and 3G, turn them off. Go to Settings ▸ Wi-Fi and toggle the switch to Off. Same for Bluetooth: Simply go to Settings ▸ General ▸ Bluetooth and there toggle the switch to Off.

Turn Off Notifications Turn off or limit push notifications for data. You'll have to do this manually for each app. Go to Settings ▸ Notifications, tap each app you'd like to adjust, and toggle the Notification Center switch to Off.

Turn Off Location Services This can also save you money when you're traveling internationally. In Settings ▸ Location Services, set the switch to Off.

Use Auto-Brightness Found in Settings ▸ Brightness & Wallpaper, Auto-Brightness automatically adjusts the screen's brightness based on ambient light conditions.

Save Your MacBook's Juice

A couple of setting changes can help you get more out of your laptop's battery, too.

Dial Down Graphics If you're using a MacBook—or, more specifically, running OS X Lion or Mountain Lion on a 15- or 17-inch MacBook Pro—go to the Energy Saver pane in System Preferences. There you'll find a checkbox for Automatic Graphics Switching. If this box is not checked, the Mac always uses the faster graphics processor, which requires more power. Select it to save your battery life.

Dim the Screen You should also adjust your MacBook's brightness by dimming the screen as much as you can. A dim screen maximizes battery life.

Minimize Unneeded Apps and Options Turn off AirPort and Bluetooth when you don't need them, and make sure you don't have any apps running in the background: Quit all apps, disconnect peripherals, and eject discs in your disc drive if you're not using them.

STM's Vertical Laptop Shoulder Bag

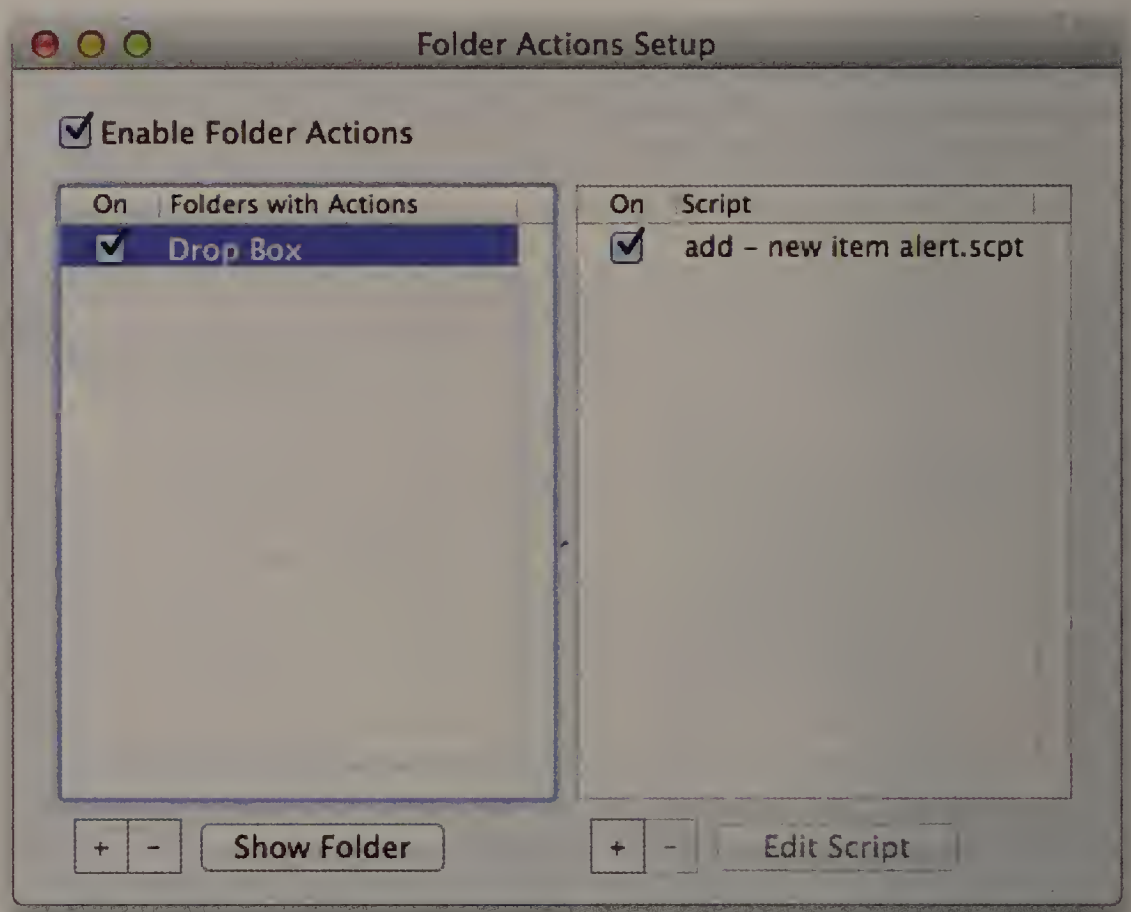
When you want to travel light, STM's $70 Vertical Laptop Shoulder Bag (www.stmbags.com) can help you do it in style. This upright messenger bag—I tested the small size—is designed for 13-inch notebooks. The main compartment sports foam padding and a plush corduroy lining, and closes with a protective hook-and-loop flap. A general-purpose pocket fits a couple of magazines or a slim book. Store your iPad in a thin pocket, lined with a feltlike material, at the bottom of the bag. Smaller trinkets, a power adapter, cables, and the like can go in the compartment at the front. Closing this compartment gets a bit challenging if you've stowed thicker items in it. The STM Vertical is a solid bag at a competitive price, but I recommend it with a caveat: If you need space to store random things you pick up during the day, this bag might not be for you. If that's not an issue, the Vertical is a fine bag for your daily essentials.—DAVID CHARTIER

Automate Tasks with Folder Actions

With this amazing OS X tool, a folder isn't just a folder

BY KIRK MCELHEARN

One of the great things about OS X is that it's like the real world. You store your files in folders; when you don't want something, you put it in the Trash. But on your Mac, a folder isn't really just a folder, and that's not a bad thing. Take, for example, Folder Actions. With this handy feature, you can attach AppleScripts to specific folders; these scripts run whenever someone adds files to the folders. That means the scripts can trigger an alert whenever new files are added to a specific folder, change the Finder labels when you put files in a folder, and automatically unzip file archives. Here's how Folder Actions work.



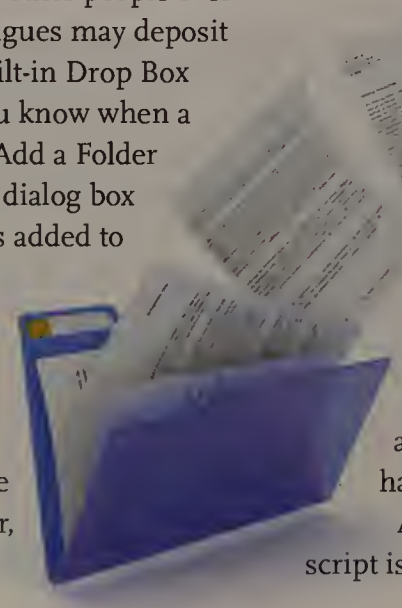
All Your Folder Actions In this window, you can see all folders that have Folder Actions attached to them, and which scripts they are set to run.

Turn On Folder Actions Globally

To use Folder Actions, you must first turn this feature on globally. To do so, Control-click (or right-click) any folder and choose Services ▸ Folder Actions Setup. (If you only have a few Services, you may not have a Services menu and will instead see the Folder Actions Setup menu item at the bottom of the contextual menu.) When you choose Folder Actions Setup, a small window opens showing a list of AppleScripts. Select Enable Folder Actions in the window, and then quit (⌘-Q).

Get Alerted to Incoming Files

If you share files with other people over a network, your colleagues may deposit files in your Mac's built-in Drop Box folder. But how do you know when a new file has arrived? Add a Folder Action that displays a dialog box whenever a new file is added to your Drop Box.



To do this, first go to your Public folder. You'll find it inside your home folder—the one with the house icon. (Or, in the Finder, select Go ▸ Go To Folder and type `~/Public`). Control-click (or right-click) the Drop Box folder that's inside this folder, choose Folder Actions Setup, click 'add - new item alert.scpt,' and click Attach.

Let's try this out. Place any file inside this folder. Within a few seconds, you should see a dialog box telling you how many new items were added to the folder and asking if you would like to view these items. Click Yes to open a window showing the files, or click No to dismiss the dialog box. You may not need to see the files right away, but now you know that they have been added.

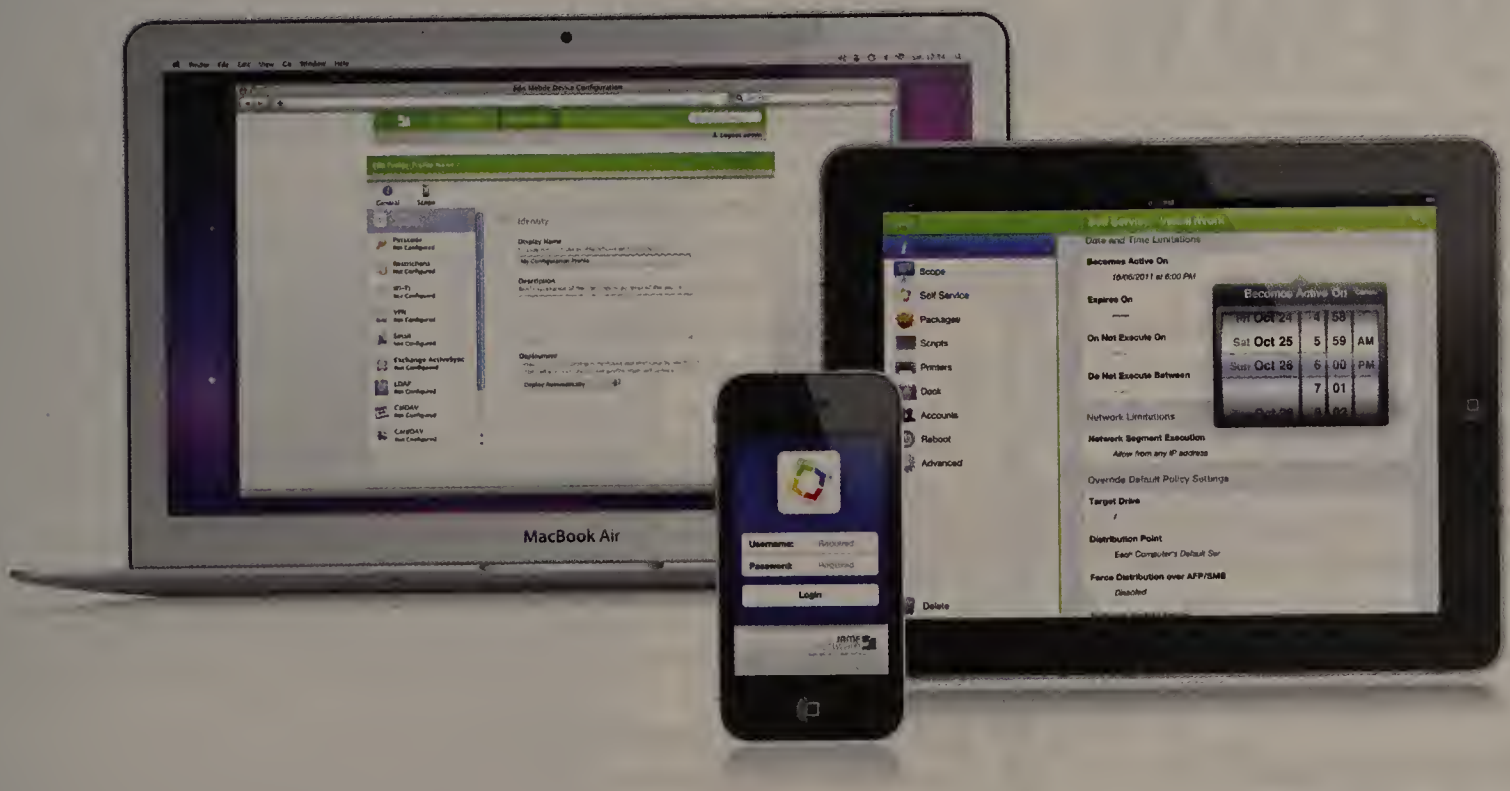
Another way to use this same script is with your own Dropbox folder (part of the backup and file synchronization service at www.dropbox.com). If you share files using Dropbox's shared folders, you may want to know when you receive new files. Dropbox offers desktop notifications—floating alerts—but they fade away after a few seconds. Attach the same script we used above to a shared Dropbox folder, and you'll see an alert whenever someone downloads new files to that folder.

Note that this only works when you add an item to the folder itself, not when you add an item to one of its subfolders. If you have a lot of subfolders in your shared folder, you'll need to apply the same script to each of them to get alerts for all of the folders.

Explore Other Built-in Actions

OS X includes a handful of folder action scripts in the /Library/Scripts/Folder Action Scripts folder. Let's look at a

iBooks
Volume Purchase Program
Training



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casper SUITE

Drop Box Alert Once you attach the Folder Action to your Drop Box folder, you'll see an alert like this every time someone puts something in the folder.

couple of them and see how they can save you time.

A number of scripts can act on graphics. For example, there are three that can convert image files to JPEG, PNG, or TIFF format. Let's say you have a blog, and you want all your graphics to be in JPEG format. Create a folder and attach the 'image - Duplicate as JPEG.scpt' script to it. Every time you add an image file to that folder, the file immediately gets converted.

There's a nifty script you can use if you often open a lot of folders within a specific folder. Closing all those windows when you're done with them can be annoying. Attach the 'close - close subfolders.scpt' script to a folder, and any open subfolders get closed when you close the top-level folder. This is useful for projects that require you to access files in many subfolders.

Turn Off Folder Actions

If you ever want to turn off Folder Actions for specific folders, you can access the Folder Actions Setup applet as described above by Control-clicking (or right-clicking) any folder. Dismiss the list of scripts, and you see a list of folders for which you've set Folder Actions, along with which scripts you've attached to them. Turn off any of these by unchecking them, or delete any folder or script from the list by selecting it and clicking the minus-sign (–) button.

Senior Contributor **Kirk McElhearn** blogs at www.mcelhearn.com and is the author of *Take Control of Scrivener 2* (TidBits Publishing, 2011).

Two Great Folder Actions

BY KIRK MCELHEARN

OS X's Folder Actions let you attach AppleScripts to specific folders so actions are performed automatically when you add items to the folders. Here are two to try out.

Easy Actions Make any Automator workflow into a Folder Action by choosing Folder Action in the template sheet.

1. Print Files Automatically

If you only have a single printer, and you don't need to tweak settings for different types of documents, you can create a Folder Action that prints any files you add to a folder.

Launch the Automator applications (in /Applications). When the program opens, select Folder Action in the template sheet that appears, and then click Choose.

To the right of the Automator window, above the workflow space, a line of text appears that reads 'Folder Action receives files and folders added to.' Click the Choose Folder menu at the end of the sentence and then select the folder to which you want to attach this Folder Action. Click the search field at the left side of the Automator window and type `print`. A list of Automator actions appears. Click the Print Finder Items action and drag it to the right side of the window.

Press ⌘-S to save this Folder Action, and give it a name. Automator saves the Folder Action, attaching it to the selected folder. Now whenever you place a document in this folder, the document prints automatically.

You can check to make sure this works by Control-clicking (or right-clicking) that folder and choosing Services ▸ Folder Actions Setup. The dialog box that appears shows all the folders to which you have attached Folder Actions.

2. Automatically Compress Files

Need to send or store some big files? You can create a Folder Action that creates compressed archives of files you add to a specific folder. Launch Automator and select Folder Action in the template sheet that appears. Click Choose. At the top of your empty workflow space, click on the Choose Folder menu and select the folder to which you want to attach this action.

From the Library column at the left of the Automator window, click on Files & Folders. Click on Create Archive in the second column, and then drag this action to the workflow space to the right of the Automator window. In the Create Archive action, choose where to store the archive. You can choose either Same Folder As Input or a different folder. Here you can also choose specific names for your archives or leave the source file's name.

Whenever you add individual files or folders to the folder using this Folder Action, the Finder creates archives of those items.

Make Your Own Folder Action

If you browse Automator's Library, you'll discover many other actions you can use as Folder Actions. Look in the categories for Files & Folders, PDFs, and Photos, and you'll find plenty of ways to save time.

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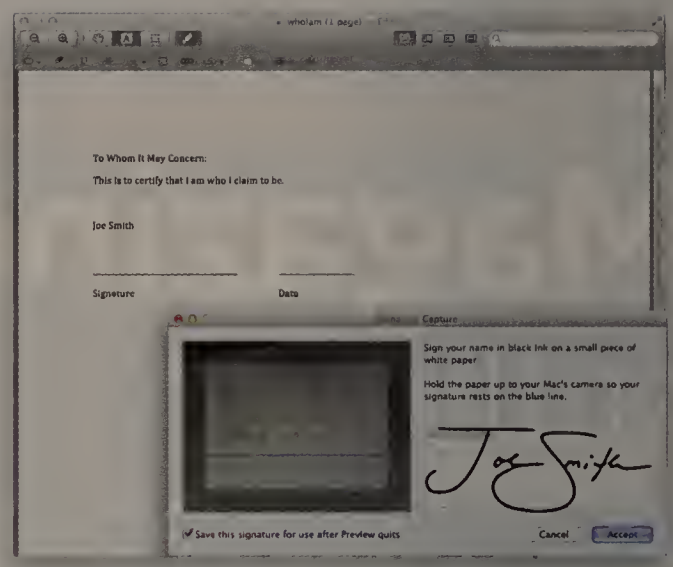
Easily add your signature to digital documents

BY DAN FRAKES



Snap a Signature When you need to sign a PDF, Preview makes it possible. Hold a signed piece of paper up to your iSight camera to capture and use the signature.

Electronic documents are becoming more and more popular: Instead of mailing paper documents or sending faxes, we can just email important files. But for many people, the biggest hurdle to going all-digital is signatures. How do you sign, say, a PDF document?

You can electronically sign your PDF documents using tools you've already got on your Mac: a FaceTime or iSight camera, and OS X's Preview application.

The first step is to launch Preview and open its Preferences window. Click Signatures in the window toolbar, and then click Create Signature.

Next, sign your name in black ink on a plain white piece of paper, and hold that signature a few inches in front of your Mac's camera. When the on-screen image of the signature approximately fills the preview box and sits on the blue line, Preview locks onto it. If the signature image looks good, click Accept.

Your electronic signature will now appear in the Signatures list in Preview's preferences. You can add another signature—say, for another family member—or delete a signature from the list using, respectively, the plus-sign (+) and minus-sign (–) buttons at the bottom of the window.

Now you're ready to use your electronic signature. Open a document and click the Annotate button in the toolbar to show Preview's annotation

kanex

kanexlive.com/sydnee

Meet Sydnee

Simple Recharge Station

- 1 Plug, 4 Ports, 2.1A Each
- Central recharge station for multiple iPads
- Cable clutter free

Scan to Play

Made for iPod iPhone iPad

"Made for iPod," "Made for iPhone," and "Made for iPad" mean that an electronic accessory has been designed to connect specifically to iPod, iPhone, or iPad, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod, iPhone, or iPad may affect wireless performance.

tool (the button that looks like a pencil poised above a straight line).

Click the Signature button (a capital S on a line, this button shows up only when you're looking at a PDF). In the pop-up menu, choose the saved signature you want to use. Then click in the area of the document where you want your signature to appear. If the document has a signature line, you can click that line to place the signature precisely on it.

When you insert your signature, you can reposition it, as well as make it larger or smaller. Once you're satisfied with your signature's size and placement, save the document and email or otherwise send it to the recipient.

Once you've created a signature, the Annotate toolbar's Signatures pop-up menu also includes commands to quickly create additional signatures, as well as manage your saved signatures. The latter command simply opens Preview's preferences window.

Matt & Nat's Fujiya Messenger Bag

Matt & Nat's $185 cognac Fujiya messenger bag (mattandnat.com) makes cotton, PVC, and recycled bottles look and feel chic, high-end, and—yes—worth the price. The bag sports a leather look, accented with a checkered design that's fashionable and appropriate for men and women alike. The Fujiya messenger is well constructed, with perfectly sized pockets and sleeves. Both your 11-inch MacBook Air and your iPad are well protected in padded compartments, and you can store smaller devices in the front zipper pocket, which features three smaller pouches for iPhones and iPods. That's not all that fits, though: I had no problem carrying my clutch wallet, DSLR camera (equipped with a 35mm lens), notebooks, and cardigan in the Fujiya messenger as well. This is a well-built and handsome bag. Most important, thanks to the bag's special pockets and sleeves, it will keep your Apple devices protected and organized.—ALEXANDRA CHANG

REVIEWS

Hardware and Software for All Your Business Needs

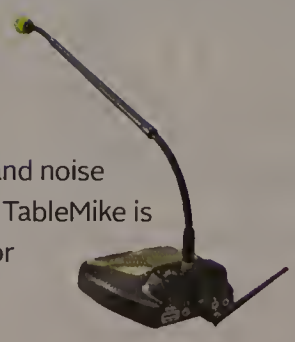
HARDWARE

Canon Pixma MX372 △

The Canon Pixma MX372 color inkjet multifunction printer will meet the needs of anyone who prints or scans only a few pages a day. The unit offers a single-sided automatic document feeder for the scanner—surprising for a printer this inexpensive. It has no automatic duplexer, however, and it omits manual duplexing support on the Mac; its black-ink costs are high, too. The Pixma MX372's output is easy on the eye, though color graphics have an orange cast. Text appears sharp and black, but the edges of letters are a tad soft. Grayscale graphics have a slightly purple tinge. Monochrome pages print at 6 ppm on the Mac. Snapshots print at 2.4 ppm on plain paper and at 1.2 ppm on glossy photo stock. The Pixma MX372 has the same ink costs as other Canon printers that utilize the company's 240 and 241 cartridges. Put simply, this means black ink is very expensive, while color is reasonably cheap. The PG-240XL black cartridge works out to 7 cents per page. The CL-241XL unified-color replacement cartridge (three colors, one cartridge) works out to 7.5 cents per page. Caveat: When one color runs out, you must replace the unified cartridge. The Canon Pixma MX372 is a nice, basic, low-priced MFP for light use.

●●●; $60; Canon, shop.usa.canon.com

SpeechWare USB 6-in-1 TableMike ▷



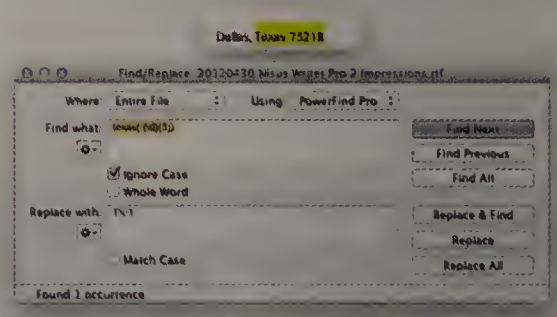
With wideband audio and noise cancellation, the 6-in-1 TableMike is designed specifically for speech recognition. You can set it on your desk with the tip of the microphone more than a foot from your mouth and get excellent accuracy. The microphone comes with a 20-inch boom that bends at two points, just above the base and just below the tip, making it easy to position. When the microphone is in the appropriate position, and the volume is adjusted correctly, the 6-in-1 TableMike offers the best speech-recognition quality of all the models we've tested. In addition, the level of comfort available with this type of microphone is exceptional. You don't have to wear anything on your head, and you don't have any wires tethering you to your computer. An optional foot pedal lets you stop dictation quickly and easily: Tap it whenever you need to clear your throat or the phone rings. Additional features include a small speaker, handy for Skype calls; a headphone jack; and an extra USB port on the mike's base. If you plan to dictate often and want a comfortable, flexible way to do it, the SpeechWare USB 6-in-1 TableMike is the best choice out there.

●●●●½; $309; SpeechWare, www.tablemike.com

Western Digital My Book Live Duo 4TB ▷

The two-bay Western Digital My Book Live Duo 4TB NAS (network-attached storage) device is easy to configure, provides all of the sharing features that most home users need, streams media well, and has strong backup capabilities. It also provides access to files from mobile devices, and performs well when reading large files. Western Digital provides mobile access to shared files on the My Book Live Duo via its WD2go Web portal. The company offers free apps for both iOS and Android devices. The unit supports USB 2.0 but not USB 3.0 or eSATA, which makes the process of backing up its data more tedious. It also lacks Web serving, one-button copying of flash drives, and the rsync tool for mirroring data with remote boxes. The My Book Live Duo's fast read speeds demonstrated its ability to stream audio or video to multiple locations, but its slower data writing speeds showed it to be less suitable for backing up or copying large amounts of data. This is a great NAS device for home users who want to stream media, but small-business users will be better served by a box that delivers faster overall performance and has more-advanced features.

●●●; $390; Western Digital; www.wdc.com



SOFTWARE

Nisus Writer Pro 2.0.2 △

Nisus Writer Pro is a word processing power tool. Mastering all of its options requires some effort, but compared to Microsoft Word, it's a remarkably user-friendly program. Nisus Writer Pro's mail-merge and drawing tools may appeal to everyday business users. Features like indexing and table-of-contents generation, bookends, book-marks, and support for cross-references will interest mainly scholars and professional writers who work with long, complicated documents. On the other hand, the ability to export documents in ePub format or save PDFs with tables of contents and links will interest anybody who creates e-documents. Nisus Writer Pro's support for change tracking and commenting will be useful for collabora-tive work. The app includes uniquely powerful find-and-replace tools that

allow you to use regular expressions—a technology for defining search strings in text documents. A small library of macros extends Nisus Writer's capabilities: One converts footnotes to body text; another copies email addresses from a document and places them in a separate list; and still others can perform math calculations on table columns and rows. This powerful app is well worth considering for your word processing needs.

●●●●½; $79; Nisus Software; www.nisus.com

Opera 12 △

This free browser has shed many of the nifty but pointless bells and whistles that made previous versions so charmingly eccentric and overstuffed. In their place, Opera 12 takes a respectable stab at assembling a finely focused modern browser. The best new feature in Opera 12 is the removal of tools that didn't serve its users well. By default, new users won't see Opera 12's confusing Unite media service or Widget mini-applications as part of the browser. Both features made Opera feel bloated, and seemed designed more to show off its technology than to serve any useful purpose. In their place, Opera introduces a cleaner interface and a few pleasant tweaks. The new version redesigns the security badges that accompany Web addresses, making it easier to tell when a site is secure, encrypted, and coming from a trusted source. You can also now add eye-pleasing themes to your browser with a few clicks. If you don't require the fastest performance, you enjoy marching to the beat of your own drummer, and you want one program for both Web browsing and email, you'll find Opera 12 a pleasing addition to both work and play on the Web.

●●●½; free; Opera Software; www.opera.com

Top Products YOUR GUIDE TO THE BEST HARDWARE WE'VE TESTED

HARD DRIVES
Desktop

PRODUCT	RATING	PRICE[1]	TYPE	FIND CODE[2]
G-RAID with Thunderbolt www.g-technology.com	●●●●	$1100 (8TB)	quad interface	78S6
LaCie d2 Quadra USB 3.0 (pictured) www.lacie.com	●●●●½	$197 (2TB)	USB 3.0	78SS
SoloPro www.iosafe.com	●●●●	$225 (1TB)	USB 2.0 and 3.0	7136

HARD DRIVES
Portable

PRODUCT	RATING	PRICE[1]	TYPE	FIND CODE[2]
Hitachi Touro Mobile Pro www.touropro.com	●●●●	$133 (750GB)	single interface	7854
ioSafe Rugged Portable SSD (pictured) www.iosafe.com	●●●●½	$525 (120GB)	single interface	7SS9
My Passport Essential www.wdc.com	●●●●	$88 (500GB)	dual interface	7S21

INPUT DEVICES
Keyboards, Mice, and More

PRODUCT	RATING	PRICE[1]	TYPE	FIND CODE[2]
IntuosS Pen Tablet intuos.wacom.com	●●●●½	$325	pen tablet	769S
Magic Trackpad www.apple.com	●●●●	$69	trackpad	6436
Wireless Solar Keyboard K750 (pictured) www.logitech.com	●●●●	$60	keyboard	7560

PRINTERS
Laser

PRODUCT	RATING	PRICE[1]	TYPE	FIND CODE[2]
S130cdn (pictured) www.dell.com	●●●●½	$1235	LED, color	6009
CS44dn www.lexmark.com	●●●●½	$290	LED, color	4356
Color LaserJet CP202Sdn www.hp.com	●●●●	$512	LED, color	4823

PRINTERS
Multifunction

PRODUCT	RATING	PRICE[1]	TYPE	FIND CODE[2]
OfficeEdge ProSS00 (pictured) www.lexmark.com	●●●●	$250	inkjet	7694
Pixma MG6120 www.usa.canon.com	●●●●	$113	inkjet	7254
WorkForce Pro WP-4540 All-in-One www.epson.com	●●●●	$300	inkjet	78S7

[1] All prices are the best current prices taken from a PriceGrabber survey of retailers at press time. [2] In a browser's address field, typing a find code after *macworld.com/* takes you to a product's review or overview.

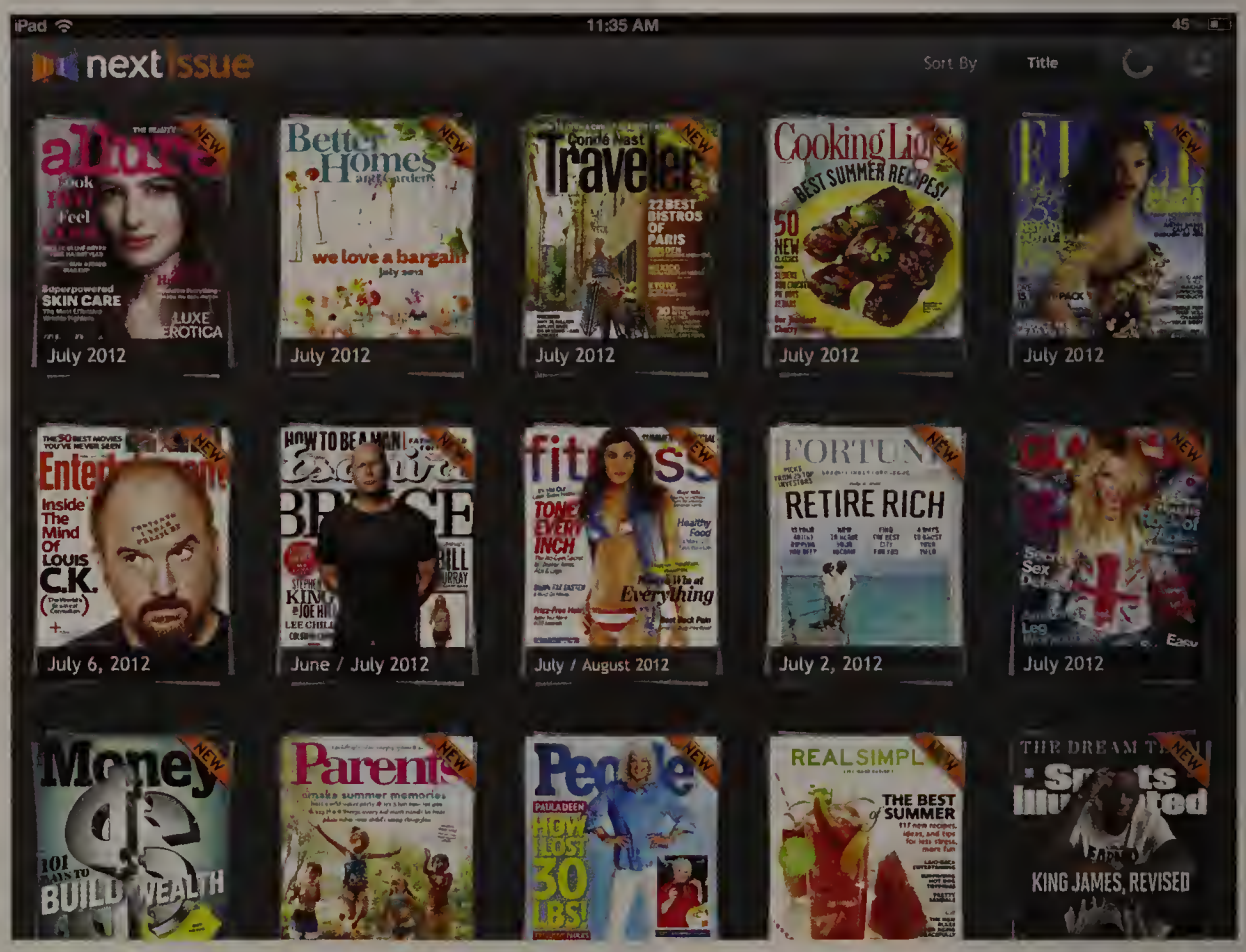
All the Magazines You Can Read

Hands-on with the Next Issue iPad app

BY JONATHAN SEFF

We're all very familiar with the concept of "all you can eat," from the artery-clogging Vegas buffet to less-literal digital equivalents such as Netflix or digital music subscription services.

In April, Next Issue Media launched with a similar idea for magazines (www.nextissue.com): Pay a monthly fee and get access to many titles from Condé Nast, Hearst, Meredith, News Corp., and Time Inc. on some Android tablets. Now iPad users can join in the fun with a catalog of nearly 40 magazines, and the promise of more to come.



Your Library You can choose which magazine titles appear in your library, as well as decide which (if any) you want to download automatically when new issues arrive.

What You Get

For $10 a month, you get the Unlimited Basic plan, which includes 34 magazines such as *Bon Appétit, Car and Driver, Cooking Light, Fortune, GQ,* and *Wired*—basically the monthly and biweekly magazines on offer. For $15 a month, the Unlimited Premium plan adds weekly magazines: *Entertainment Weekly, People, Sports Illustrated, The New Yorker,* and *Time.*

You can also purchase single issues for $2.50 to $6, or subscribe to individual magazines for $2 to $10 a month, but the real point of the service is the flat-fee approach for a wide array of offerings.

To get around Apple's App Store pricing restrictions, all purchases are made via the Next Issue website rather than as in-app purchases.

Next Issue Media is actually a joint venture of the five publishers whose magazines are represented here, so although the company promises to keep adding titles, don't expect to see any from publishers other than these five.

How It Works

Once you sign up for one of the unlimited plans, you decide which titles you want in your library, and then choose how they get sorted in the app (by issue date, title, new issues, last opened date, or download status).

For each magazine, tap the displayed cover—the app shows you the latest issue—to go to that magazine. You'll then see the current issue as well as all the available back issues. (The archives only go back to January 2012.) To start reading an issue, tap its cover, and the service begins what it calls a Smart Download that lets you start reading after about a minute. If you tap a story you want to read, that part downloads first, and then the download resumes with the rest of the issue after that. I started downloading an issue of *The New Yorker* and jumped to the cartoon gallery. It was available after a few seconds, and when I moved to read a review of *The Amazing Spider-Man* elsewhere in the issue, I had a similarly quick experience. (The current iOS Newsstand version of *The New Yorker* has a similar feature.)

Alternatively, you can tap the pushpin icon in the lower right corner of a cover to download and *pin* it to your device. Pinned issues are downloaded completely, so they're available offline. They remain on your iPad until you unpin them, and they aren't subject to autodeletion. (A Usage setting lets you choose how many magazine issues to keep. Older issues get deleted first, and you can always redownload them later.)

For magazines you like to read on a regular basis, you can also set up autodownloading for individual titles.

You'll also find that different publishers use different navigation and user interface elements. While there's no way to avoid some variation, Next Issue has made an effort to create a relatively consistent user experience. Within any magazine, when you tap a page, navigation elements fade in at the top and bottom of the page. At the top, you'll find a Library button to take you back to that magazine's issue; a TOC button that displays a drop-down list of the different sections and articles in an issue, which you can tap to jump to that article; and a back button that returns you to the last page or article you were reading.

Pay a monthly fee and you get access to nearly 40 titles from Condé Nast, Hearst, Meredith, News Corp., and Time Inc.

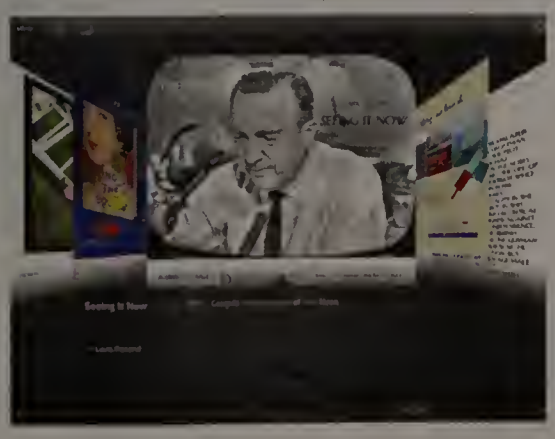
But unlike those in Newsstand, Next Issues' automatic downloads don't happen until you launch the app.

The Experience

If you've read the digital versions of any of the magazines offered, you'll be familiar with how they look and feel. That's because the files are the same ones you'd download from a magazine's own app. Some magazines (*Cooking Light* or *Parents*, for example) are available in only one orientation. Some stack articles vertically, so that you scroll left or right to get to an article, and then up or down to navigate to the pages within it. Some are mostly flat, requiring only horizontal swiping. Multimedia elements, such as embedded video, podcasts, and slideshows, are the same as those you'd find in a magazine's stand-alone app.

At the bottom is what Next Issue calls the Carousel, an interface that lets you scan through the pages of an issue and select a page or article from there. You can navigate via a slider, by scrolling sideways through a list of articles, or by swiping left or right through thumbnails of the pages.

Next Issue content is not currently optimized for the Retina display on the latest iPad (the app itself runs on all iPad models). Even magazines whose own iOS apps have been updated for Retina iPads will look jagged within Next Issue—a pretty big concern for people with third-generation iPads. The company says users should expect Retina support later in 2012, along with a larger number of magazine titles.



Carousel Consistent navigation elements tie disparate magazine designs together.

ILLUSTRATION BY MICHAEL SLACK

Is Next Issue Worth It?

If you just like to read a few magazines, you're probably better off subscribing to the digital versions directly (or finding a cheap print subscription for magazines that offer free digital access to their print subscribers).

But if you're a dedicated magazine reader, the monthly fee seems pretty reasonable. The good news is, Next Issue offers a 30-day free trial, so you can give it a whirl before committing.

Ask the iTunes Guy: iTunes Store

BY KIRK MCELHEARN

Q&A Here are a few questions and answers about working with the iTunes Store.

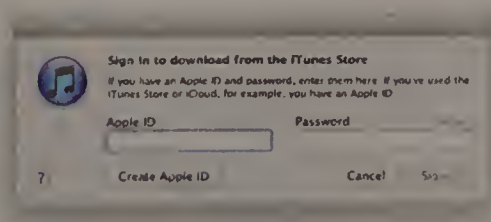
Q: My wife and I both have separate iTunes accounts. Is there a way to share a book across accounts?

A: You can log into the iTunes Store with your wife's Apple ID and password, and then download anything in her Purchased list. Or you can copy a book to your wife's iTunes library. When she tries to sync it, iTunes will ask her to sign in with your Apple ID and password. Once she does so, this authorizes her Mac as one of the five that can sync your content.

Q: Is there a way for me to change my Apple ID?

A: Apple has a document that explains how (macworld.com/7906). You can change your name and your email address, though Apple says some Apple IDs, such as those ending in me.com or mac.com, can't be changed.

Have questions? Send them to itunesguy@macworld.com.



Sign Me In You'll see the sign-in dialog box the first time you try to sync content from another iTunes Store account.

Move iTunes Media Files to Other Locations with TuneSpan

BY KIRK MCELHEARN

Over the years, my iTunes library has grown in size from manageable to humongous. And as I continue to add more content—music files, videos, podcasts, and more—that library sure isn't getting any smaller.

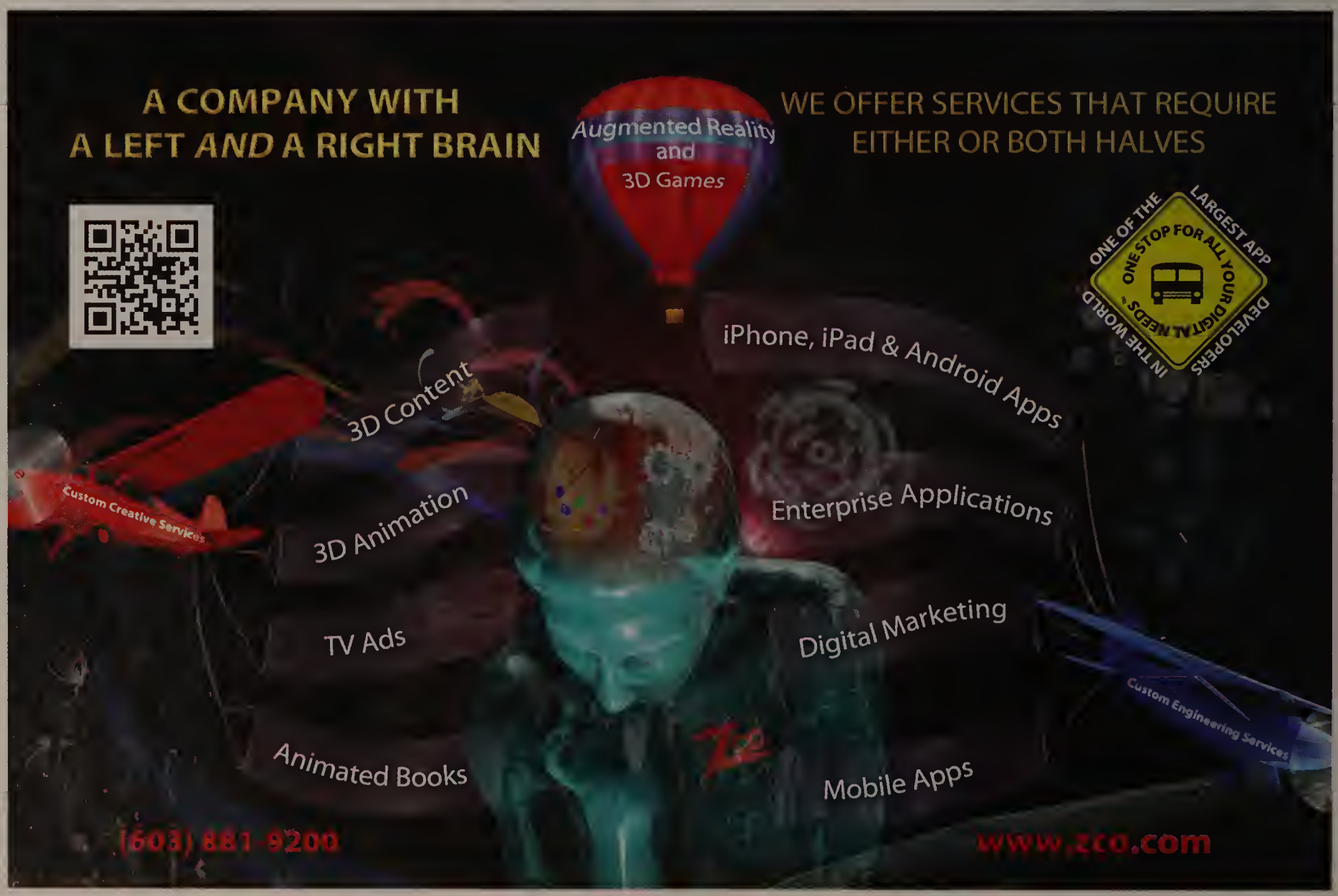
So I, like many iTunes users, have been looking for an easy solution for putting some of my iTunes content on another drive while keeping it accessible.

Enter TuneSpan (www.tunespan.com). This $10 app from Random Applications is designed to move, or *span,* some or all of your iTunes library to another drive. (Note that the developer lists $10 as a limited-time sale price, and says he may raise the price to $15 in the future.) You can even move part of your library to one drive and another part to a different drive.

When you launch TuneSpan, it examines your iTunes library to generate a list of all your content. Even if you have a large library, this process takes only a minute or so. The program then displays its main window, which is similar to that of iTunes. You see your playlists in a column to the left, and a navigation bar lets you choose to examine all your content or just one kind (music, movies, and so on).

The first thing you do is choose where you want to move your content. Just drag the destination folder on the target drive to the well at the bottom of the window, labeled Click Here Or Drop Folder To Select Span Location. Next, pick the content you want to move.

I chose to move my podcasts and iTunes U content to an external hard drive. I clicked iTunes U in the navigation bar, and then dragged the iTunes U genre to the section that says Drag Media Here To Select For Spanning. Clicking the Span button starts the process. TuneSpan examines the files and even warns you if it can't find some of them. It then displays a dialog box giving a detailed explanation of what will happen next. You can



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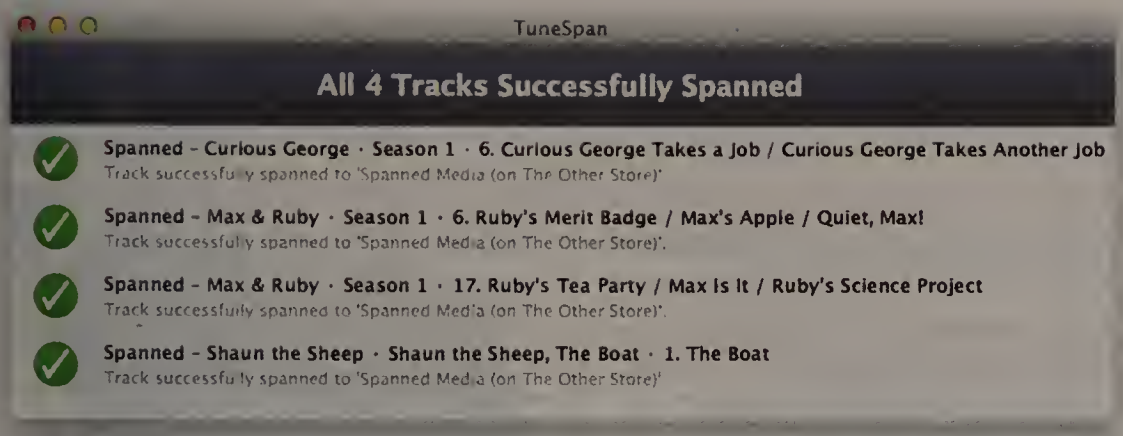


Spanning Across TuneSpan shows the results of your span and then lets you continue to use the software from the results screen.

choose how many attempts it should make to complete the span, whether to move the original files to the Trash after copying, and more.

Clicking Span in this dialog box begins the process. A small window containing a progress bar appears while TuneSpan is moving the files and updating your iTunes library. This may take a while, depending on how much content you're moving (say, all four seasons of *Breaking Bad*) and how fast your data copies over. The progress bar doesn't give you a time estimate of when the task will be completed. When the process has finished, TuneSpan displays a window showing all the files that it moved, along with any errors it may have encountered.

After moving your content, you can sync it just as if it were still in your iTunes Media folder. And that's the beauty of TuneSpan: Not only does it move your content, but you can play that content from iTunes, sync it to iOS devices, and even access it via Home Sharing on an Apple TV or iPad.

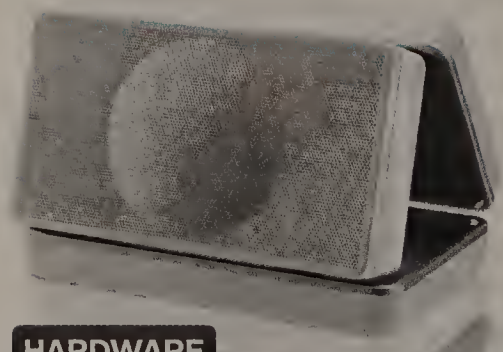
To move future content to a span, just select the same part of your library and span it again. For example, I've placed all my podcasts on a separate drive. When I download new podcast episodes that I want to move, I simply select the top-level Podcasts folder, and TuneSpan figures out which files to move.

However, if you want to span a subset of one of your libraries—for instance, a genre of music or a TV series—and you choose it manually, you can't save this selection to run it again in the future.

It's a hassle to parcel out your media files to different disks, and TuneSpan can simplify this process, allowing you to keep everything accessible in your iTunes library without having to store it in the iTunes Media folder.

REVIEWS

Home Entertainment Hardware, Software, and Accessories



HARDWARE

Geneva Lab Sound System Model XS △

Geneva Lab's Sound System Model XS is a small, portable speaker system that sticks to the visual aesthetic of Geneva's products and comes in white, black, or red. The Bluetooth-enabled speaker—which doubles as a travel alarm clock—includes a built-in rechargeable battery. The XS lives inside a clamshell case and is attached to it by pins. When closed up, it latches shut snugly and securely, with integrated magnets to seal the deal. When you want to use the XS, you fold it into a triangle by latching the top of the case into grooves on the top of the XS itself. We didn't love the touch-sensitive controls on the Model XS. It's too easy to graze the wrong button accidentally, and we prefer the tactile response of a real button on this sort of hardware. If you're looking for a good-sounding, compact Bluetooth speaker, Jawbone's Jambox may not play quite as loudly as the Sound System Model XS, but it costs $50 less, feels a bit more portable, and doesn't require precise case alignment or rely on quirky, touch-sensitive buttons.

♦♦♦♦; $249; Geneva Lab; www.genevalab.com

Nocs NS400 Titanium ▽

When we reviewed the $70 NS200 Aluminum from Nocs, we found that the Swedish company's penchant for minimalism had resulted in a clean but somewhat generic design and that the sound quality, while unobjectionable, wasn't particularly compelling. The NS400 Titanium represents a step up in price and performance. Like the NS200, the NS400 is a canalbud-style headset. On the outside, its earpieces are constructed of titanium, which we found more handsome than the NS200's aluminum housings. More important, the NS400 upgrades the NS200's drivers (the tiny speakers inside) with a titanium coating, which makes them stiffer and provides a noticeable improvement in sound quality, with better-defined high-frequency sounds, more-detailed midrange frequencies, and tighter bass (which also benefits other parts of the spectrum and produces a more spacious sound). However, the NS400 isn't perfect—its bass is still somewhat bloated (and louder than we'd prefer). But the NS400 will appeal to anyone looking for a pair of good headphones that matches the style of Apple's products.

♦♦♦½; $100; Nocs; www.nocs.se

Soundfreaq Sound Kick △

Soundfreaq's SFQ-04 Sound Kick is a decent portable Bluetooth speaker. It includes a proprietary audio mode intended to enhance audio separation. The effect, though artificial, does indeed widen the stereo image noticeably. However, it can also lead to some distortion, especially at louder volumes. The Sound Kick includes a USB port that lets you charge other devices via USB, even when the device is running off its own battery. Charging this way reduces the system's playback time, and it also limits its maximum volume. Although the dual 2.3-inch drivers offer decent performance and can get plenty loud, their bass presence is negligible.

♦♦♦; $100; Soundfreaq; soundfreaq.com

iPods: Current Lineup

PRODUCT	SPECS	RATING	PRICE[1]	DISPLAY	PERFORMANCE	FIND CODE[2]
iPod Classic	160GB	♦♦♦♦	$249	2.5-inch color	36 hours of music playback; 6 hours of video playback	5262
iPod Touch	8GB	♦♦♦♦½	$199	3.5-inch color (Retina)	40 hours of music playback; 7 hours of video playback	6553
	32GB	♦♦♦♦½	$299	3.5-inch color (Retina)	40 hours of music playback; 7 hours of video playback	6554
	64GB	♦♦♦♦½	$399	3.5-inch color (Retina)	40 hours of music playback; 7 hours of video playback	6555
iPod Nano	8GB	♦♦♦½	$129	1.5-inch color	24 hours of music playback; 5 hours of video playback	6551
	16GB	♦♦♦½	$149	1.5-inch color	24 hours of music playback; 5 hours of video playback	6552
iPod Shuffle	2GB	♦♦♦♦	$49	none	15 hours of music playback	6550

[1] All prices are Apple's prices. [2] In a browser's address field, typing a find code after *macworld.com/* takes you to a product's review or overview.

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Macworld HOT STUFF

What We're Raving about This Month

Urban Pixels Can I Stream.It?

I have no cable subscription, choosing instead to satiate my television- and movie-watching desires with the likes of Netflix, Hulu, iTunes, and Amazon. The appropriately named Can I Stream.It? is a free website and app that lets you search for films across every major paid streaming and online rental service. In short, if a movie is legitimately available for rental or sale anywhere on the Internet, the service should be able to discover where it is and how you can watch it. And fear not: Support for television shows is coming soon (www.canistream.it).—**SERENITY CALDWELL**

V-Moda Vamp Headphone Amp

If you have golden ears, a golden pocketbook, and an iPhone 4 or 4S with a music library encoded in Apple Lossless, you'll want to know about the V-Moda Vamp. This exquisite headphone amp and DAC (digital-to-analog converter) comes in the form of an iPhone case with a built-in battery, and is priced at a cool $650. The Vamp taps the iPhone 4's digital audio output and passes the bitstream to a DSP (digital signal processor), a DAC, and, finally, a high-end Burr-Brown operational amplifier, which is what ultimately drives your headphone (v-moda.com).—**MICHAEL BROWN**

Pioneer AppRadio 2

Looking for a better way to listen to your iPhone music in the car? Pioneer has unveiled the $599 AppRadio 2, the second generation of its iPhone 4- and 4S-compatible touchscreen car stereo, which installs right in your car's dash, letting you stream music from Apple's Music as well as apps such as Pandora. It also includes an AM/FM radio, as well as a GPS antenna to improve the accuracy of location services on the road (www.pioneerelectronics.com).—**JOEL MATHIS**

Klipsch Image S4i Rugged Headphones

Klipsch's new $100 Image S4i Rugged Headphones are made to take a beating. Their rubber moldings are made for all-weather usability and can handle extreme weather conditions. The extra-large inline remote allows you to control calls and music even when you're wearing gloves. And the S4i comes in four colors: yellow, orange, blue, and red, bright hues that make it more difficult to lose than your average black or white models (www.klipsch.com).—**JOEL MATHIS**

ION AUDIO ROOM ROCKER

If the room is a-rockin', please come a-knockin'! Ion Audio's Room Rocker docking station is designed to provide party-level audio from your iPhone or iPad, with a full-range, 40-watt stereo and a powerful subwoofer. While the Room Rocker includes a dock cradle for your iOS device, it can also wirelessly stream music from any Bluetooth-enabled gadget. The product had not yet been released at press time, so we can't say when it'll be available or how much it'll cost (www.ionaudio.com).—**JOEL MATHIS**

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The Fine Art of Computational Photography and iOS

Combine images so that they capture a scene the way your eyes see it in real life

BY GLENN FLEISHMAN

Image Across Space This panorama took a couple of minutes to assemble in Microsoft's Photosynth app on an iPhone, without any fussy tapping. Pan an iPhone around slowly, and the app provides guidance as to where it can grab the next photo segment.

Ever since the 1880s, when light could first be captured accurately on a substrate, photography has nearly always boiled down to this: a bit of space preserved across a slice of time. Even as analog photography and filmmaking have given way to digital, cameras still capture a piece of light focused through a lens for the length of a given exposure and then fix it in place—but now in electronic bits rather than silver halide.

Computational photography may fundamentally alter how you conceive of and take pictures. In fact, you might already be using computational photography and not even know it. Part of the reason you may be using it is that such algorithmic techniques are in the apps you use on a smartphone. The ever-improving processors and cameras in phones such as the iPhone allow for the real-time processing or relatively fast postprocessing of images, and we're just beginning to see what that looks like.

Software Builds a Better Picture

The term *computational photography* refers to the technique of using sophisticated algorithms to combine multiple exposures across time and/or space. Previously you might have used different exposures on multiple layers in an image-editing program to selectively multiply, darken, or mask an image to achieve a given effect. Or you might have taken several shots, distorted them, and stitched the edges together to make a larger picture. Those are fairly primitive approaches compared with the greater image-processing sophistication in some computational photography apps.

Bracketing helps to make sure you get one good shot. HDR relies on several shots that, combined, make one enhanced photograph.

The two most popular early techniques in this field are high-dynamic-range (HDR) photography and panoramic images, which demonstrate, respectively, photos combined across time and photos combined across space. Both produce images that a single camera lens can't capture in a single exposure.

HDR images are a sort of dynamic-range composite derived from multiple shots of an identically framed scene captured at close intervals. Each shot is the result of a different exposure duration, and so each captures a unique *dynamic range*—the span from light to dark and the subtleties in between. An HDR algorithm takes the shots, analyzes variances in dynamic range, and enhances the weakest areas (where highlights are blown out or shadow details are missing) to produce an often supernaturally exposed photo. But HDR software can let you adjust that to look as natural or hyper-real as you wish.

HDR might seem at first like a form of *bracketing*, in which a photographer captures a scene multiple times with each shot having a slightly different exposure, aperture, focus, or flash. Bracketing helps to make sure you get one good shot; HDR relies on several shots that, combined, make one enhanced photograph. Support for HDR arrived on the iPhone with iOS 4.1, although the smartphone can't always snap pictures rapidly enough for good HDR results.

Panoramic images, in contrast, work in the dimension of space, not time. To create a computed panorama, the

software captures a set of pictures across an area, emphasizing overlap. Some panorama software takes a literal approach, and simply joins pictures by using perspective distortion and overlay. But the best software analyzes intersections and removes skewing from angled shots. You take a host of pictures, and out comes a landscape or a 360-degree view. These panoramas provide a richer visual description of an environment than a single shot could—even one taken with an extremely wide-angle lens.

Lytro Camera Instead of capturing where the light falls, the Lytro can calculate the direction of light rays and trace them back through space to where they originate or reflect off an object.

Putting It to Use

HDR and panorama-stitching apps are two early examples of what will likely be an explosion of the kinds of apps we'll see as developers explore smartphones' powerful processors and then turn theories into products. SynthCam (free; macworld.com/7908) relies on video recording (a frame every 1/30th of a second) rather than a series of still images to create a shallow depth of field. With this effect—which usually requires a single-lens reflex (SLR) camera to achieve—just a small part of an image is in focus, while objects closer and farther away are blurred. SynthCam, available but no longer under development, is basically an iOS proof-of-concept product that's a little tricky to use but worth the effort. It also produces tilt-focus images, which make large objects appear miniature, and it captures good photos in extraordinarily low light.

Microsoft's Photosynth (free; macworld.com/7909) is a panorama generator that emerged from a research project. It stitches together images up to a full 360-degree view as you take photos. Panoramatic 360 ($1; macworld.com/7910) also works well, thanks to robust controls and options. It requires you to line up overlaps, which can produce good results but entails more work than Photosynth. It's available, but not under active development.

Hardware Perspective

Computational photography can involve new hardware, too. The sole current example for sale is the Lytro Camera, which debuted last year. It is the first model designed to capture a light field rather than a static, flat plane of light. This camera has an odd form factor and takes low-resolution photos, but it can refocus an image after taking the picture.

The Future

Computational photography apps are a great fit with iOS cameras, because the relatively small size of the lens and image sensors requires a more innovative approach to obtain good or interesting photos. Today, we flip an HDR switch to On, and use separate apps. Tomorrow, iOS could "magically" produce photos that capture the world around us in a manner closer to what we see with our eyes.

Glenn Fleishman is a *Macworld* senior contributor.

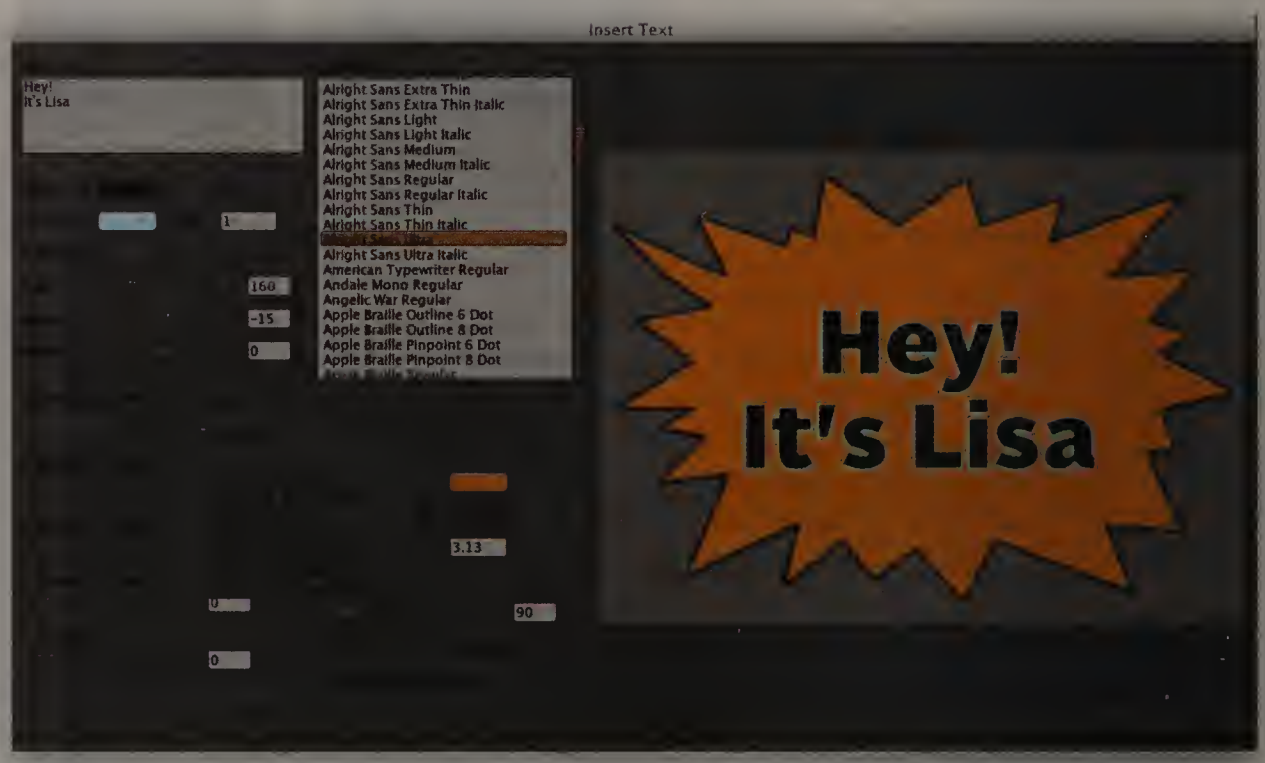
CHAOTIC, KINETIC, DELICATE TANGLE FONT

Depending on the view, Tangle, a free experimental display font by designer Claire Mitchell, is either lovely or freakish (macworld.com/7911). Recognizable sans serif letterforms emerge within a wild swirl of lines mimicking the floating action of dandelion fluff or a heart-stopping dervish made from bioengineered cells waiting to go berserk. Despite the chaotic ornamentation, Tangle's characters read loud and clear.

Tangle emerged during Mitchell's coursework at the University of the West of England. Students developed a 26-character font around a single word. Mitchell chose *chaos*. The result is a bold set of lowercase characters composed of atmospheric motion lines. It's a beautiful feat of engineering, but the emotional range is limited. Tangle's characters are easily recognizable, although they are best teased apart with letterspacing. The action surrounding each letter is included in the point size, so characters appear smaller than their counterparts of the same size in other fonts. It's better for single words than for phrases. Use Tangle for personal or commercial work, but include attribution to the original designer.—KATE GODFREY

MotionArtist Public Beta Released at Comic-Con

BY JACKIE DOVE



Bubbles and Bursts MotionArtist offers an assortment of highly customizable vector-based balloons, thought bubbles, and bursts, to which you can add your own stylized text.

Artists seeking to create comic books or graphic novels on their desktop computers have a new app to look forward to. Smith Micro—maker of Poser, Anime Studio, and Manga Studio—has launched a free public beta of MotionArtist, an animated comic-authoring program that lets you create HTML-based interactive comics and graphic novels. The company released the beta in conjunction with International Comic-Con 2012.

MotionArtist will be available online until the first quarter of 2013, during which time artists can download and use the program for free. Due in mid-February 2013, the full release of MotionArtist will cost about $50.

"Motion Artist is designed as a bridge between traditional comic creators and getting those comics digitized and out into the wild," says Steve Yatson, Smith Micro's senior director of productivity and graphics. "There's a real disconnect between those two things. It's an animation system for non-animators."

Creating and Sharing

MotionArtist takes a new approach to layout, animation, and interactivity for graphical projects. It has no drawing, inking, or coloring tools; instead the application provides powerful and intuitive composition and presentation tools. You start by creating typical panel-based comics or drawings, you add animation, and then you export the comics or presentations in either HTML5 or common video file formats. You can also share your creations via Facebook and YouTube from within the program.

MotionArtist lets you start creating comics in several ways. You can make comics digitally from the start, or scan them in from existing paper-based projects. Yatson says that MotionArtist is also aimed at photographers who want to present their images in a unique way, graphic novelists looking to create interactive presentations, Web developers seeking to export projects to HTML5 for posting on websites and social media services, and anyone who wants to create animated or interactive presentations.

The presentations you build around comic panels and comic layouts can include animations, sound, and titling. You can create panels of various shapes and resize, duplicate, rotate, align, and cut them at any time. The program provides vector-based balloons, thought bubbles, bursts, and dialog boxes; you can easily add and edit text, as well.

The program also lets you change fonts, word balloon types, and thought bubbles. You can create simple photo presentations through automated object placement and camera movement. If you drop in a folder of images, MotionArtist will automatically place them on the stage and animate the camera.

Within MotionArtist's GPU-accelerated environment, you can use a layered, 3D effect to add depth to panels and presentations for a parallax effect. For example, you can import a layered file into a panel, arrange the layers in 3D space, and set the panel options to give the appearance that the layers are floating freely in 3D space.

Import Anything

The program's import functionality lets you add images, video, and audio of just about any size and type, including 1080p video, high-resolution and layered Photoshop images, and Anime Studio files. The program hides its keyframing functionality in the background, using stop points within a dialog box interface.

MotionArtist works with Intel Macs running OS X 10.6 or later. Smith Micro encourages participants in the beta program to submit problems, issues, and feature suggestions via MotionArtist's bug-report system.

Convert Photos from Color to Black and White in iPhoto for iOS

BY LEAH YAMSHON

While iPhoto for iOS provides many editing features for enhancing color photos, on occasion you may prefer to forgo an image's color altogether and opt for the power of a simple black-and-white image. This classic effect in iPhoto for iOS can add a touch of timelessness to your photos. You can also use it to show off dramatic shadows and contrasts. iPhoto for iOS has several options for turning color photos black and white.

Desaturation Patches of green still remain in this mostly black-and-white photo. To achieve this effect, you use the Desaturate brush.

Use the Effects Tool

The most straightforward way to get the black-and-white effect is to use iPhoto's Effects tool. The Effects icon offers a collection of tools that can make great enhancements to your photos. Tap the Effects icon (the last in a series of editing icons), and then select Black & White from the available reels.

From there, you'll see three buttons that indicate different black-and-white effects: a cream-colored sepia button, a grain button, and a vignette button.

Let's start with adjusting the sepia control. Tap the cream-colored button to bathe your photo in a sepia tint. The mini photo reel at the bottom of the screen shows six smaller versions of your photo and a blue vertical line. Drag the vertical line from left to right, and the black, white, and sepia contrast will change.

The grain icon lets you adjust the grain and the black-and-white contrast. Again, you move the vertical blue bar from left to right to see the changes. Use this tool to sharpen, emphasize shadows, and increase contrast.

The vignette button places a vignette around the image, with heavier shadows in each corner to focus on the subject in the center. As with the other two controls, slide the blue vertical bar to see the border corners adjust.

Desaturation Methods

You can add a black-and-white effect to your photos with a couple of other iPhoto features, too. The first technique involves the Desaturate brush, which you find by tapping the Brushes icon (it looks like a trio of paintbrushes). The Desaturate brush is in grayscale. Use it to drain color from all or part of the image. Tap the Gear icon and drag the desaturate level to the far right to make your photo truly black-and-white.

You can also paint on a black-and-white effect using your finger in order to leave some parts of the image in color. This effect is great for showing off vibrant colors in one part of your photo.

Now, exit out of Brushes and tap the color-palette icon right next to it. Check out the rainbow box. This adjusts the overall color of the photo. Slide the silver knob all the way to the left, and watch the color fade from your photo, turning it a soft black and white.

The Exposure tool (which you can reach by tapping the camera-aperture icon next to the palette icon) can change the look of your black-and-white image once you have transformed the photo with one of the other tools. Changing the exposure will alter the definition and quality of the black-and-white contrast to give your image extra pop. It's best to use this tool last, to add the final polish.

Aperture 3.3 Embraces Retina Display and iPhoto

BY DERRICK STORY

REVIEW The Mac App Store has changed how we access and update software. A perfect example is the latest release of Aperture. While the version number—3.3.2—suggests a minor, incremental release of software that's more than two years old, in fact this update includes enhancements and features that in the past might well have been considered a major upgrade. And there's no charge to update to this version, which is essentially a rewritten app.

The headline changes in Aperture 3.3 include Retina display support for the new 15-inch MacBook Pro, a substantial performance boost, and a unified library structure for both iPhoto and Aperture.

New Thumbnail Viewer Aperture 3.3 on a new MacBook Pro Retina display.

Retina Display Support

Retina display support does not remove or diminish features for users of non-Retina computers; it just enhances the experience of using Aperture. When you look at thumbnails in Aperture 3.3 on a Retina display, the tones are noticeably smoother than they are on a non-Retina display. This is because Apple has rewritten the thumbnail viewer to take advantage of the Retina display's densely packed pixels.

Fast Browsing on Import

Generally, one of the moments photographers are most anxious to view their images is when they're first importing them from the memory card to the computer. Apple rewrote the importing process in Aperture 3.3, and it's especially impressive for raw shooters.

The instant you start importing your images, Aperture grabs all of the embedded JPEGs and displays them. It then downloads the larger raw data in the background so that you can sort and rate images immediately. This process is different from that of previous versions of Aperture, which would churn away at building previews while you were trying to work on a particular file. Now you have more processor power available.

Unified Library and More

Moving from iPhoto to Aperture, or using the two programs together, is now simple. Apple has unified the libraries of both with a shared database structure, and image-editing tools are now compatible between applications. Also, Aperture's user interface has received a face-lift; with its monochromatic icons, it now looks more like iPhoto.

If you use both Aperture and iPhoto, their libraries will appear in your Pictures folder. They each have the same icon, because you can open your iPhoto library (version 9.3 or later) in Aperture 3.3 and vice versa. But you can have only one library open in one application at a time.

Twin Icons Your Mac will label your Aperture and iPhoto libraries separately, but they are virtually interchangeable between the two applications.

★★★★; $80; upgrade, free; Apple; www.apple.com

If you create a version of a picture in Aperture, it appears in iPhoto. If you open an iPhoto library in Aperture, you still have access to the Effects tools because Aperture has added iPhoto Effects to the Add Adjustment pop-up menu. A few terms have changed too: Masters are now called Originals, Metadata is now called Info, and Presets are now called Effects.

The Projects list has a new Manual sort option that lets you organize project containers in any order you want. Previously you had to sort by Name, Date, and Library. You also can import, view, and trim AVCHD video.

Image Editing

Apple has added a new Auto Enhance feature to the Adjustments tab next to the Effects pop-up menu. It intelligently applies white balance, exposure, vibrance, curves, and shadows to improve the image. The first task of this tool is to do no harm, so if you nailed your shot, you probably won't see much difference if you run Auto Enhance.

The White Balance tool has received a major overhaul, gaining an über–Auto button and three filters for different types of photos. Prior to Aperture 3.3, your only white balance option was Temperature & Tint. Now you have two additional choices: Skin Tone and Natural Gray.

Skin Tone, a new algorithm, is great for photos of people. Simply place the eyedropper on a skin tone, and click. Natural Gray corrects color casts but also leaves some feel for the ambient color in your image. In other words, it won't overcorrect your photo. The White Balance brick also includes an Auto button. When you click on it, Aperture runs all three filters, and you can choose your favorite version. Corrections are brushable.

Highlights & Shadows is rewritten and streamlined. It now performs faster, and the output seems better. The brick has been trimmed to three sliders: Highlights, Shadows, and Mid Contrast.

Macworld's Buying Advice

You have nothing to lose and everything to gain by upgrading to Aperture 3.3. You need OS X Lion 10.7.4 to do so, however. Photographers with the new MacBook Pro 15-inch Retina display are in for a special treat, as Aperture 3.3.2 looks stunning on these machines. iPhoto fans who have wanted to move to Aperture can now rest assured that converting is flat-out simple.

Senior Contributor **Derrick Story** runs a virtual camera club at The Digital Story (www.thedigitalstory.com).

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CAMCORDERS
High Definition

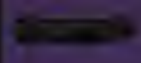
PRODUCT	RATING	PRICE[1]	TYPE	FIND CODE[2]
Bloggie Live (pictured) www.sony.com	★★★★	$248	Full HD	7821
HMX-Q10UN www.samsung.com	★★★★	$150	Full HD	7617

DIGITAL CAMERAS
Point-and-Shoot

PRODUCT	RATING	PRICE[1]	TYPE	FIND CODE[2]
PowerShot G12 www.canon.com	★★★★½	$375	10-megapixel	7820
PowerShot SX260 HS (pictured) www.canon.com	★★★★	$269	12-megapixel	7879

DIGITAL CAMERAS
SLR

PRODUCT	RATING	PRICE[1]	TYPE	FIND CODE[2]
D7000 www.nikon.com	★★★★½	$1097	16-megapixel	7618
EOS Rebel T3i (pictured) www.canon.com	★★★★½	$650	18-megapixel	7190
Olympus OM-D E-M5 www.olympusamerica.com	★★★★½	$999	16-megapixel	7878



DVD BURNERS
Desktop and Portable

PRODUCT	RATING	PRICE[1]	TYPE	FIND CODE[2]
d2 DVD±RW w/LightScribe www.lacie.com	★★★★	$78	desktop	3900
MediaStation 8X External Blu-ray Writer (pictured) www.buffalotech.com	★★★★	$147	Blu-ray	5344

PRINTERS
Inkjet

PRODUCT	RATING	PRICE[1]	TYPE	FIND CODE[2]
Officejet Pro 8000 Wireless www.hp.com	★★★★	$200	desktop	7876
WorkForce Pro WP-4020 (pictured) www.epson.com	★★★★	$100	photo	7819

[1] All prices are the best current prices taken from a PriceGrabber survey of retailers at press time. [2] In a browser's address field, typing a find code after *macworld.com/* takes you to a product's review or overview.

Mac OS X Hints

The insider tips you won't get from Apple

BY KIRK MCELHEARN

View an App's Graphics in Preview

Whether you're preparing a presentation or assembling how-to documents for your staff, there may come a time when you want access to a program's built-in graphics—perhaps to adorn a presentation or a how-to guide at work. You may be especially curious about the images in applications like Apple's Pages, which include plenty of graphical elements in their themes.

You can view all of an application's graphical resources—including its icons, pictures, user-interface elements, and the like—by dragging the program's icon onto the Preview icon. When you do this, Preview's sidebar shows all of these items, and you can click any one of them to view it in the main window.

With Keynote, for example, you'll gain access to all the graphical elements in the various themes that program contains; and with Pages, you'll be able to see all the elements from its templates. Both of these programs contain thousands of graphics, so it may take you a while to wade through them all. But if you scroll through, you should be able to find the graphic you want.

App Graphics Dragging an application's icon into Preview lets you view all of that program's built-in graphical elements—icons, user-interface elements, and so on.

Have a Hint to Share?

Navigate to MacOSXHints.com to submit it. This month's column was based on tips from Andrew C. Bairnsfather, Stephen Magladry, Loizos Pavlides, and Andrew G. Stack. Each month, the author of our favorite reader-supplied tip is eligible to receive a *Help Desk* mug.

Fine-Tune Brightness and Volume Levels

When you use the volume controls on a Mac to increase or decrease the sound that's coming from your speakers, those levels increment in whole steps on a scale from 1 to 10: Press the Volume Up button once, for example, and the volume goes up one step on that scale.

In versions of OS X prior to 10.7, it was possible to adjust the volume in smaller increments: If you held down Shift-Option before pressing the Volume keys on your keyboard, you could adjust the volume in quarter steps instead of whole ones. For some reason, Apple removed this ability in OS X 10.7. But one *Mac OS X Hints* reader noticed that Apple has restored it in OS X 10.7.4.

In addition to using the Shift-Option combination to control the volume more finely, you can also use it to adjust the screen brightness on your Mac. Press Shift-Option, and then press one of the brightness keys on a Mac keyboard, and you'll notice that the brightness changes in quarter steps. This is handy when your display is just a bit too bright or too dim.

Disable Lion's Auto Save

The Auto Save feature in OS X 10.7 Lion is a mixed bag. It's nice that the feature saves things for you, but it's not so nice

MUG PHOTOGRAPH BY PETER BELANGER

that the function automatically saves things you don't want to change, and it's not so great that the Save As option has disappeared. Happily, Apple is returning Save As in OS X Mountain Lion. But you have a remedy for both inconveniences if you're still using Lion.

To disable Auto Save in TextEdit, run the following command in Terminal: **`defaults write com.apple.TextEdit ApplePersistence -bool no`**. This command disables Auto Save and Versions, reenables the Save As option and its hotkey (⌘-Shift-S), and reenables ⌘-D as the hotkey to use when you *don't* want to save your file.

The command works for other apps as well. Replace TextEdit with the name of the app: **`defaults write com.apple.iWork.Keynote ApplePersistence -bool no`**, for example, or **`defaults write com.apple.Preview ApplePersistence -bool no`**.

If you want to return the old Save As behavior globally instead of app by app, the command **`defaults write -g ApplePersistence -bool no`** should do the trick. So if you want to change this setting only for specific applications, use the first method. If you want to change it across the board, use the second. Or just upgrade to OS X Mountain Lion.

Three Browser Tips

Have you ever found yourself on a webpage filled with animated GIFs? Annoying, aren't they? Fortunately, if you use Firefox, you can pause those GIFs just by pressing the Escape key. You can do the same in Safari, but you need to keep holding the Escape key down to prevent the animations from starting up again.

Safari's Downloads pop-up menu (which opens when you click the button located in the upper right corner) offers some interesting features. Some of them you probably know about. (For example, double-clicking a file's icon in the pop-up menu opens it, and you can copy a file's URL by selecting it in the menu and pressing ⌘-C.) But here's one you may not know about: You can select a downloaded file in the Downloads pop-up and then drag it—to a folder, to your desktop, or even to an app's Dock icon to launch it with that application.

Finally, if you're short on hard drive space, check out your copy of Google Chrome. When one Hints reader did so, he found that the app was taking up 1.2GB of space. The reason for the bloat: When he looked into the app's bundle by Control-clicking (or right-clicking) it and choosing Show Package Contents, he discovered multiple old versions of the program, all of which appeared to be nearly identical. (Those older editions reside in the folder Contents/Versions.) After he removed all but the most recent copy of the browser, Chrome's file size shrank to 113MB, and the program still worked just fine.

The explanation: When Chrome auto-updates, it keeps at least two of the most recent versions of itself. Normally those older versions should add up to about 225MB. But some users have been finding that older versions don't get deleted. Several readers commented that their versions of Chrome were very large—as big as 2.2GB.

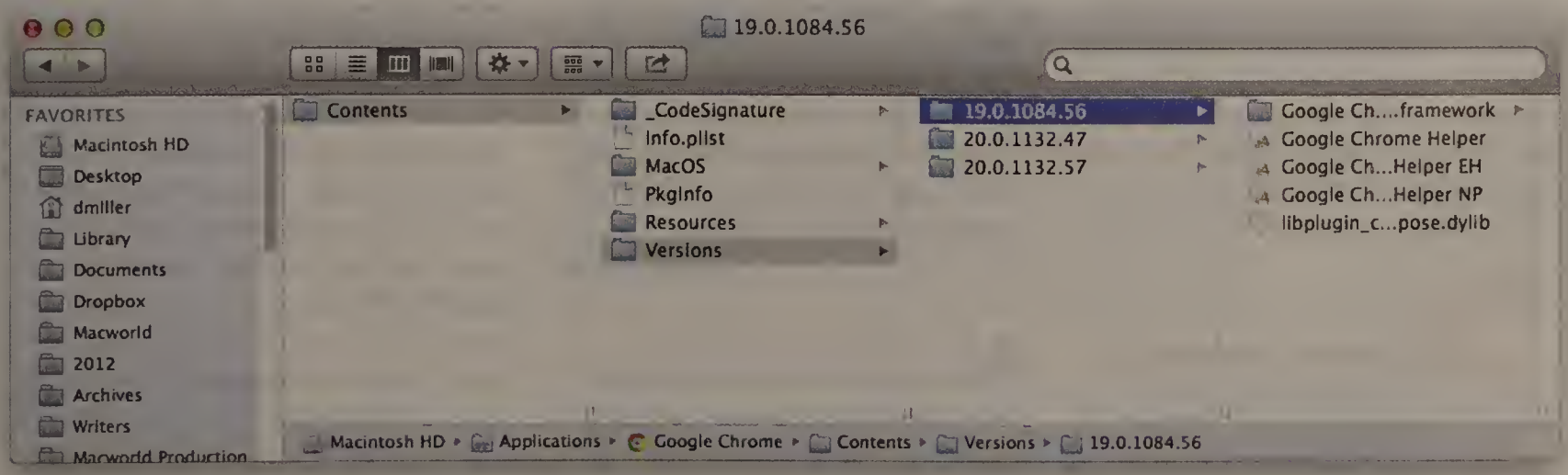
View Retina Display at Full Resolution

By default, the new MacBook Pro with Retina display ships in a pixel-doubled configuration, meaning that you get the equivalent of 1440-by-900-pixel resolution. This setting offers no increase in actual desktop space over the resolution of the current standard non-Retina MacBook Pro, but the increased pixel density means that items on screen often look much sharper than they did before.

The Displays settings pane on the Retina MacBook Pro gives you five screen-resolution options to choose from, but none lets you turn off the scaling and use the display at its full resolution. Fortunately, you have one way to crank up the resolution to the maximum.

The key is a third-party utility, SwitchResX (free trial; www.madrau.com). With it, you can create a new resolution setting, and then save and apply it. This procedure activates the huge 2880-by-1800 resolution.

A word of warning: Some users have reported that this tweak deletes a system file required for changing the resolution via the Display preference pane. Back up everything, and proceed with caution.



Old Chrome If you examine the contents of the Chrome application package, you'll find several old versions of the program. Most of the time, the Chrome installer cleans up these old versions—but sometimes it doesn't, which can lead to disk bloat.

Mac 911

Solutions to your most vexing Mac problems

BY CHRISTOPHER BREEN

Share a Wireless Keyboard and Mouse

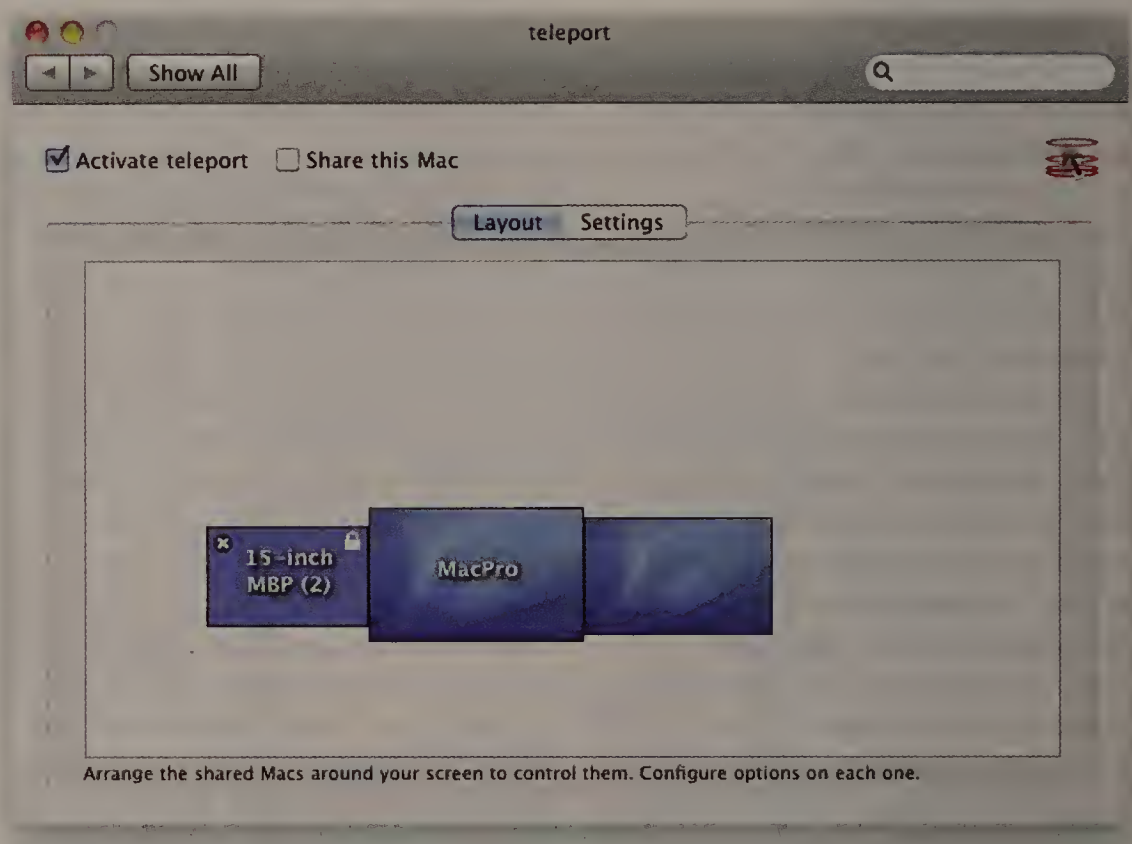
Q: I have an iMac and a MacBook Pro. I control the iMac with a wireless keyboard and mouse, and I want to use these devices to control my MacBook Pro as well. Is there a Bluetooth KVM (keyboard, video, mouse) switch I could use to share my keyboard and mouse with my laptop?

Alan Lynch

A: KVM switches require a wired connection between the mouse and keyboard, and that presents a difficulty for you, as your input devices are wireless. I'm not aware of any intermediary switch that you can pair to your Bluetooth keyboard and mouse and then use to switch between computers. But you have other ways.

One is the open-source Synergy project (synergy-foss.org). This software allows you to share a keyboard and mouse not only with another Mac but also with Windows and Linux systems. It requires a fair bit of work in Terminal.

An easier option is Abyssoft's donationware Teleport (macworld.com/7886). It's a clever idea. Simply install it on each Mac, and choose one Mac to serve as the host (meaning you'll use its input peripherals to control any linked Macs). Then, within the Teleport preference pane, choose a layout for your computers—your laptop on the left and your iMac on the right, for instance (see "From Screen to Shining Screen"). To control your laptop, just drag the cursor to the left side of the screen. After a very short delay (accompanied by a bit of animation), the cursor appears on the MacBook's display. Once it's there, you can use both your mouse and your keyboard to control the MacBook.



From Screen to Shining Screen Teleport lets you easily share a mouse or trackpad and keyboard between multiple Macs.

Deauthorize an iTunes Account on an Old Mac

Q: I have an old iBook that's still running 10.2.8 and iTunes 4. I am trying to deauthorize this computer, but when I try, it says that it can't connect to the iTunes Store. Please tell me I don't have to upgrade iTunes just to turn off this account on this computer.

Via the Internet

A: On the computer that you currently use, launch iTunes. You will see your Apple ID in the top right of the iTunes window—*example@me.com*, for instance. Click your ID. In the resulting dialog box, enter your iTunes password and click the View Account button.

In the Account Information pane that appears, seek out the Computer Authorizations area. Here you'll find the number of computers that are authorized to use your Apple ID—your ancient iBook is one of them. Next to that entry is a Deauthorize All button. Click it to do exactly what it says: Deauthorize all your computers.

At one time this button didn't become visible until you had used all five of your allowed authorizations. That is no longer the case—it's always visible, at least if you have authorized more than one machine. However, Apple limits you to deauthorizing all of your computers just once a year. If you do it today, you must wait a year before you can do so again.

Next, authorize the computers you currently use by choosing Store ▸ Authorize Computer.

Have a Problem?

Go to the Mac 911 forum (macworld.com/2467) to ask about your misbehaving Macs and applications.

Use an External Microphone with a MacBook Air

Q: I bought a microphone with a 3.5mm plug. How can I use it with my 2011 MacBook Air?

Glenn Fleishman

A: The MacBook Air has a single headphone port, which would more accurately be called a *headset* port. Like the headphone port on iOS devices, this jack supports audio input as well as output, with one caveat: The microphone or headset in question must be of the variety with a three-ring silver plug, just like Apple's headsets (and their compatible siblings).

Regrettably, your microphone is undoubtedly of the standard two-ring type, and therefore your MacBook won't recognize it. But don't lose all hope. You simply need to procure a USB audio interface. If you intend to use just a single mic, an inexpensive and easy solution is to buy Griffin Technology's $40 iMic (macworld.com/7887). Plug one end into a free USB port and insert your mic into the audio input jack, choose the iMic as the input source within the Sound preference pane, and you should be in business.

If you need more than one input, try a USB audio interface such as Focusrite's Scarlett 2i2 (macworld.com/7888), which costs about $135 retail. This interface has 1/4-inch inputs, so you'll require a couple of adapters that convert 3.5mm plugs to this larger size.

Dead Number Pad

Q: I have a keyboard with a number pad, and I use that number pad with the Calculator widget. Last week it stopped working—or at least some of it did. The number keys don't work, but the plus, minus, multiplication, and division keys do. What's going on?

Daniel Gilbert

A: You've managed to turn on the Mouse Keys feature. Part of Universal Access, this feature allows you to move the cursor with the keyboard's number pad. Engaging it accidentally isn't difficult: Just press the Option key five times in a row, and it's on (and your number pad no longer works as you expect). Usually you hear a little chirping sound when this happens.

To fix the problem, launch System Preferences, select Universal Access, click the Mouse & Trackpad preference, and disable Mouse Keys (see "Mouse Keys, Begone!").

ICONS BY PAUL HOWALT

Bugs & Fixes BY TED LANDAU

Disappearing Email

Sometimes you may find that email messages disappear from the Mail app on your iOS device, even though they are still accessible on your Mac. What's going on? Here are a couple of possible explanations.

POP versus IMAP This is such a long-standing cause that I hesitate to mention it. But I suspect it's still a source of problems for some users. Let's assume you're using an app (not a Web browser) for email on your Mac and have an email account set up as POP. You've set that account to delete messages from the server after Mail downloads them locally. If you have the same account set up as IMAP on your iOS device, messages may disappear from the iOS device after you check mail on your Mac. This is because IMAP accounts typically show only the messages that are still on the server. The simplest solution is to set up the email account as IMAP on both devices.

Even if you have an IMAP account on your Mac, a similar vanishing act can result when you move email messages from the inbox to a separate folder. This occurs if you've set your Mac's email app to delete messages from the server after you remove them from the inbox.

No Limit Setting in Exchange If your email is disappearing from a Microsoft Exchange account on your iOS device, go to Settings ▸ Mail, Contacts, Calendars and select the Exchange listing. From here, scroll down to the Days To Sync option. To make sure no messages ever disappear, choose No Limit from the available durations. With any other choice, Exchange deletes messages after the specified time elapses (say, 1 Day).

Days To Sync is present only in Exchange accounts. However, even if you have this option, you may discover that the No Limit choice is not available. Apparently, some ISPs disable the feature, probably to prevent the delivery of a barrage of messages to your iOS device. As covered in an Apple Support Communities thread (macworld.com/7905), at least some GoDaddy Exchange accounts remove the feature. Assuming you are certain you want the No Limit setting, you can find some work-arounds in the postings on this thread. For example, you can temporarily disable syncing, which should bring the No Limit option back. After you select it, reenable syncing. The option should remain in effect even though it is no longer listed in Days To Sync.

Gmail Is Not Working

You can't send or receive email from your Gmail account in Mail on your Mac. Whenever you try to do so, Mail demands that you enter your password again, claiming that the one you already entered is incorrect. You're certain you've put in the right password. What's going on?

Based on my Web search, this is a fairly common, although intermittent, problem. It recently plagued a friend of mine who asked me for help. I tried several potential suggested fixes, including various manipulations of the Gmail account settings in Mail, but none of those attempts worked. What finally did the trick was launching Keychain Access and deleting all the Gmail items. After that, we returned to Mail and tried again to receive messages. Success!

Senior Contributor **Ted Landau** is the founder of MacFixIt (www.macfixit.com). Share your problems at bugs@macworld.com or on Macworld.com's Mac 911 forum.

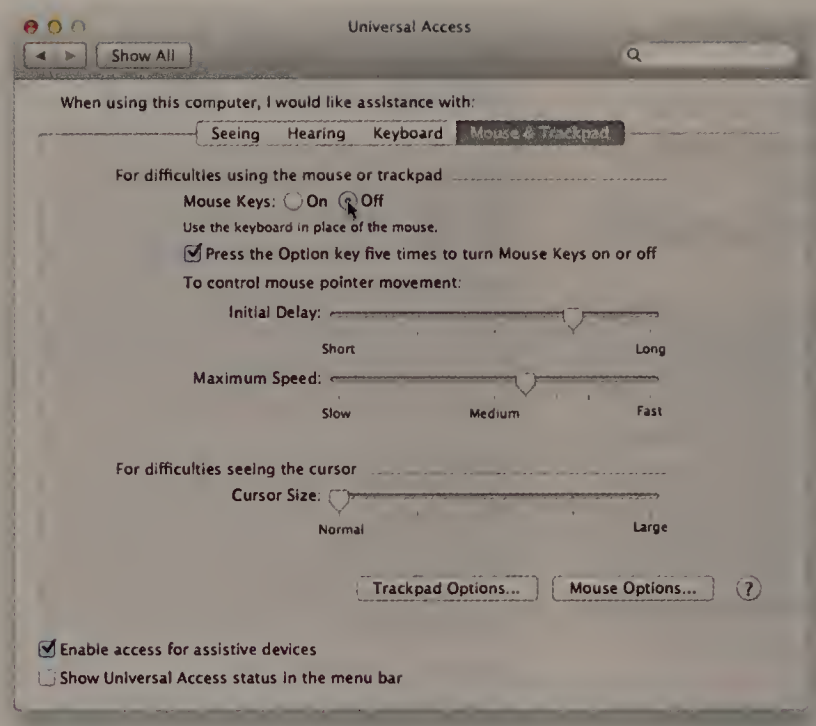
What Does the Finder's Green Button Do?

Q: I've always thought the green button that appears in all windows zoomed the selected window to full-screen view, but that doesn't appear to be the case. Can you explain exactly what this button is and how it behaves?

Clay Anderson

A: As you've noticed, in some cases it does cause a window to fill the screen; in other instances, it expands the window, but not always. How the window behaves in the Finder depends on the number of items in it. If you're dealing with a window in Icon view that contains just a handful of items, clicking the green button expands the window so you can see all the items. If you're working in List view, the window not only expands to show the items, but also stretches sideways to display all its columns. (The CoverFlow view works similarly.) In Column view, the window expands to show you as much of the visible hierarchy as it can.

If a window contains more items than it can display, the window expands up and down as far as it can manage. In Icon view, the window cycles through different expansion views, eventually getting to a full-screen view. Clicking the button while you're working in List view never causes the window to fill the screen.



Mouse Keys, Begone! It's not difficult to accidentally engage the Mouse Keys option (which disables some of the keys on a keyboard's number pad).

If you hold down the Option key while clicking the green button, any open windows expand, not just the currently selected window.

Speaking of applications, the green button almost always works as a toggle between the window's current view and the view in which you can see as much content as possible. For example, if you've resized a Safari window to show just one column of a webpage, clicking the green button expands the window up and down as well as to the width of the webpage. Click it again, and the page returns to its original size.

If you've made a Pages document smaller by dragging one of the sides or corners, clicking the green button expands the page so you see as much of its length and width as possible. In contrast, if a page—say, a Keynote presentation—started at its expanded size, clicking the green button does nothing, because its current and expanded size are the same. Adding to the confusion, however, are some exceptions: Click the green button in Mail, iPhoto, iCal, or iMovie, and the window promptly expands to fill the screen. Do the same thing in iTunes, though, and the window shrinks down to become a mini-player.

MAC 101

Disappearing Tools

Q: I'm running Snow Leopard on my iMac, and something has gone wrong with my copy of Mail. When I select a message and click Reply, the Reply window appears but doesn't have a Send button. Instead, I have to choose Send from the Message menu. Where did that button go?

Via the Internet

A: It's time you became familiar with the button in the top right corner of many windows on the Mac—the one that's supposed to look like it's transparent. That's the toolbar button. When you click it, that exposes hidden toolbars or hides exposed toolbars. My very best guess is that you clicked the button at one time or another, hiding the toolbar in the Reply window as a result. Click the button again, and the Send button, along with other hidden buttons in the toolbar, should reappear.

Note that the Lion and Mountain Lion versions of Mail don't have a toolbar button, so if you update to a more recent version of the Mac OS, this won't happen again.

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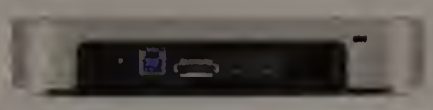

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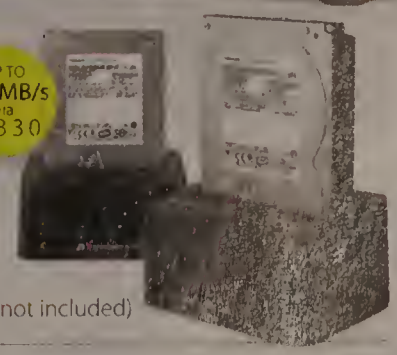

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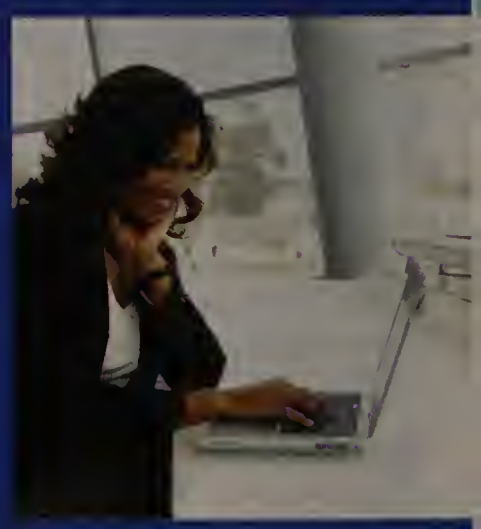

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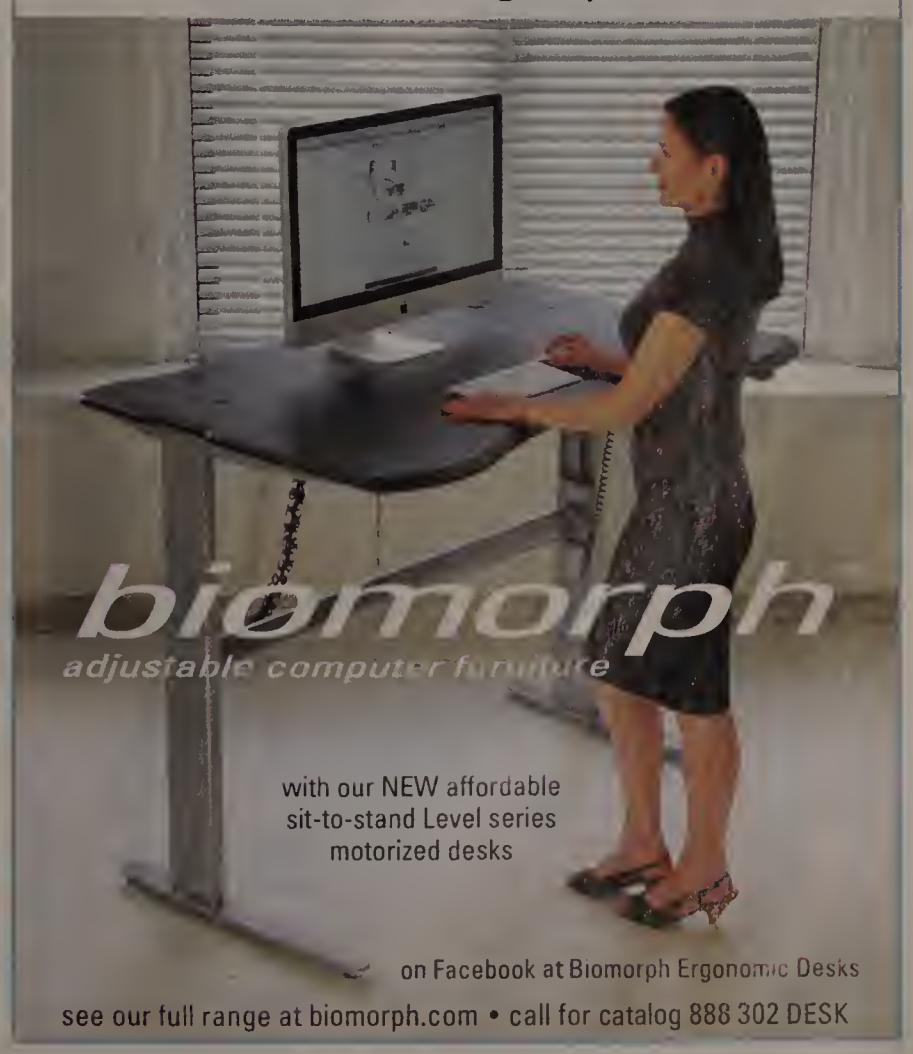

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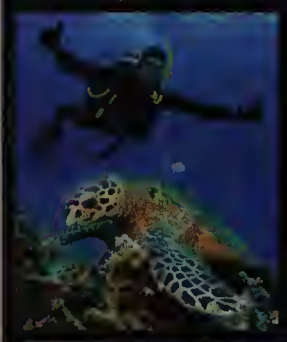

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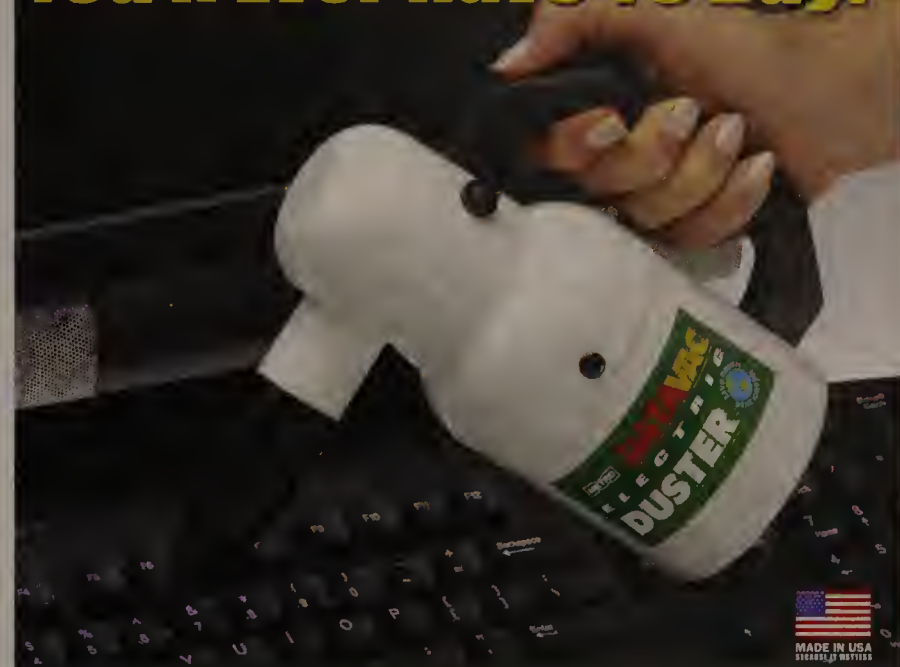

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SPOTLIGHT By Brett Terpstra

Scratching an Itch

Why the best software developers focus on passion first, not profits

I love Macs. The hardware is outstanding, and the operating system is beautiful and powerful. However, it's the vast selection of high-quality, third-party apps that makes the Mac—and, by extension, iOS—the best choice for me. The quality, ease of use, and aesthetics of the applications on Apple's platforms surpass those on any other operating system I've used.

In talking to my fellow developers about why that is, I've found a common thread: By a large margin, the most interesting apps come from people who are out to solve a problem they've encountered themselves; I call it "scratching an itch."

Problem Solvers

Sometimes those itches come from observing the friction in someone else's workflow. But the idea is the same: If you can figure out a solution to a problem for yourself or for someone you know, chances are that a lot of other people are having the same problem and could also use a solution. If developers have anything in common, it's that they love solving problems.

It's not that developers aren't concerned with paying the bills, it's just that the best developers put the ideas first. If you can tap into a general enough problem, if you can generalize the solution to the point where it's marketable, and if you can do all that without losing your passion for solving the problem, you have yourself a paycheck.

Many of my favorite third-party apps originated from independent developers who share this problem-solving approach: Acorn (★★★½; macworld.com/a/ 1159847), Byword (★★★★; macworld.com/a/1165597), MarsEdit (★★★½; macworld.com/a/1153908), along with dozens of others. Those developers weren't scouring support forums in search of random problems to solve just because they wanted to make a quick buck. They were scratching an itch that they, or someone they knew, had.

Knowing When to Say No

These apps have more in common than their inspiration. They also tend to provide a narrow range of tools in the most elegant manner possible.

The trick most of these developers have figured out is how and when to say no to user requests. If you've ever been on the customer-support side of a development project, you know that once users get to like an app, they start flooding the developer with requests for new features. Some of these requests make perfect sense. Others would require investments in time and money that wouldn't pay off for anyone other than the one or two people who want them. Figuring out which is which is an important skill for any developer to have.

Independent developers don't generally have access to the tools that would enable them to decide with statistical certainty whether adding a particular feature is a good use of their time. They do, however, have the liberty of deciding which features excite them and which ones best fit their vision for the app. The trick to avoiding feature bloat lies in finding the balance between practicality and passion.

These developers have figured out how and when to say no to user requests.

Independent developers can do this. They get to choose their projects and make the development decisions personally. The result is a product that serves one purpose well and has a truly handcrafted feel.

It's Not about Size

This isn't to say that big companies can't produce excellent software. I've seen many examples of amazing Mac apps from thriving companies with lots of employees; 1Password (★★★★½; macworld.com/a/ 1155446), Billings (★★★★; macworld.com/a/1137424), OmniFocus (★★★½; macworld.com/a/1132832), and ScreenFlow (★★★★★; macworld.com/a/1163151) come to mind. Despite their developers' size, those apps perform their functions superbly, with well-considered feature sets and well-focused, even beautiful, user interfaces.

Notably, these bigger developers still feel free to say no (diplomatically, of course) to feature requests from users; I've seen it happen repeatedly in their support forums.

Apple itself exemplifies this strategy in its product development. The company doesn't put a lot of stock in customer surveys or consumer testing; it builds products that scratch an itch or fill a gap that the *company* sees. And as the markets attest, that philosophy has worked out extremely well—even for a huge company like Apple.

Brett Terpstra is a developer and blogger (brettterpstra.com) who has also worked in Web and print design and advertising.

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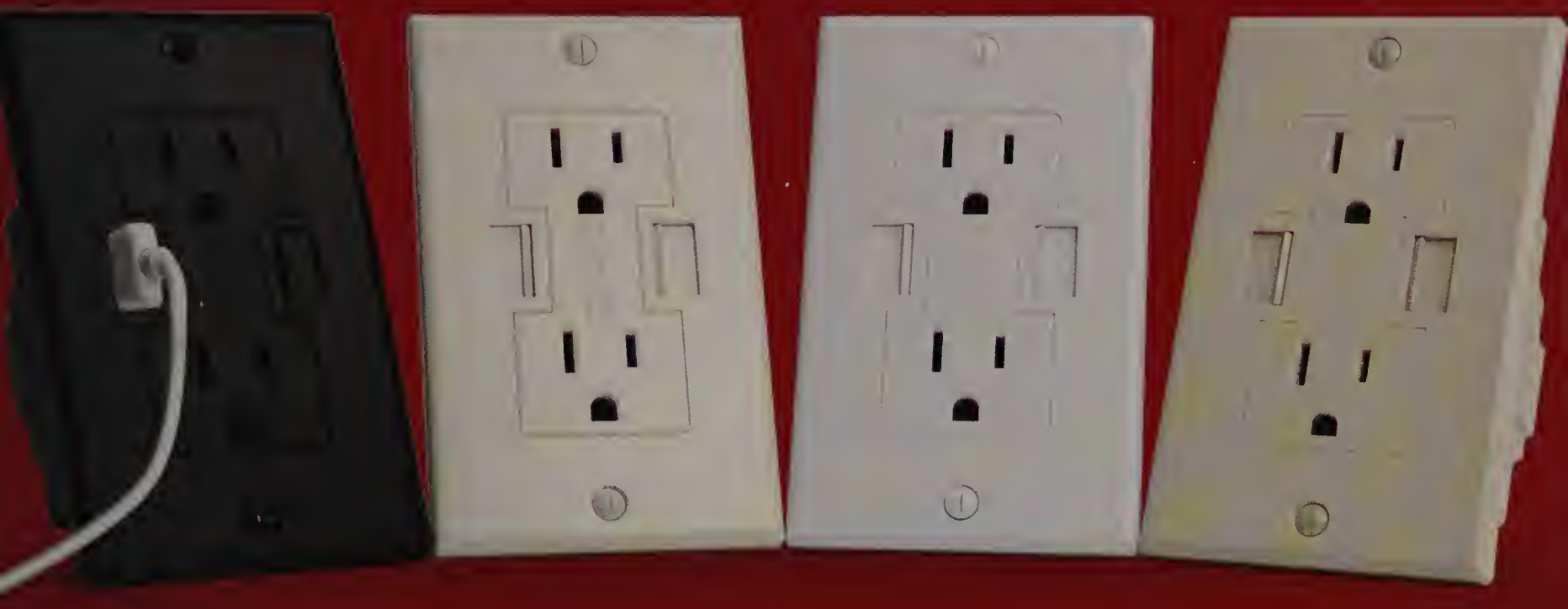

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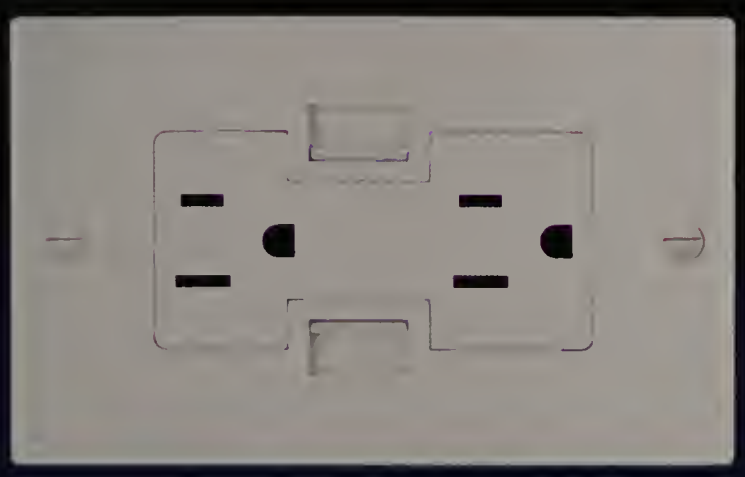

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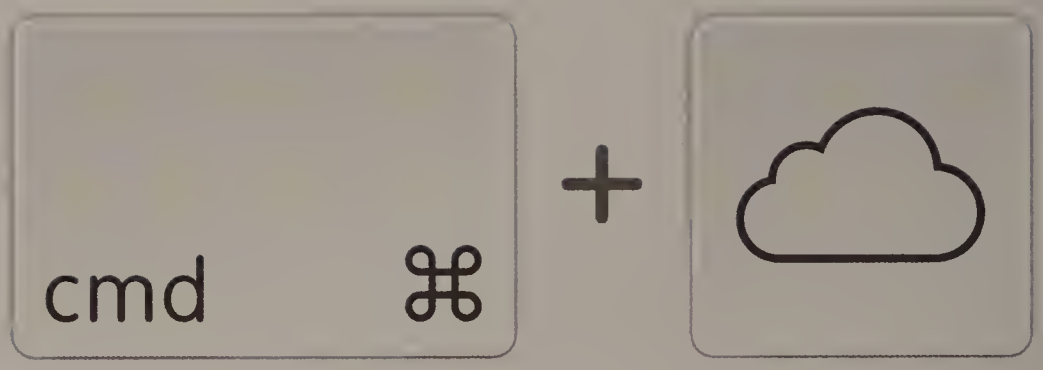

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